

**VALVE
AND FITTINGS
CATALOGUE**

NO. 26

The A. R. WILLIAMS MACHINERY CO.
LIMITED
HEAD OFFICE: TORONTO, CAN.

BRANCHES

MONTREAL QUE.
(WILLIAMS & WILSON)

**WINNIPEG
MAN.**

**VANCOUVER
B. C.**

Cast Iron Flanged Fittings - continued

GALVANIZED

A. & R. STANDARD				A. S. M. E. O. D. & DRILLING			
DIAMETER IN INCHES	FLANGES LOOSE	FLANGES ATTACHED	DISCS BLANK	FLANGES LOOSE	FLANGES ATTACHED	DISCS BLANK	EXTRA for FACING
3	.54	.87	.57	.79	1.12	.82	.60
4	.73	1.06	.76	1.10	1.43	1.13	.65
5	.91	1.25	.95	1.37	1.70	1.40	.70
6	1.10	1.71	1.43	1.62	2.23	1.95	.75
7	1.28	2.20	1.87	2.00	2.92	2.60	.85
8	1.45	2.50	2.18	2.20	3.25	2.90	.95
9	1.92	3.15	2.80	2.73	3.96	3.60	1.05
10	2.23	3.50	3.11	3.20	4.47	4.10	1.15
11	2.41	4.00	3.89	3.70	5.30	5.20	1.25
12	2.56	4.50	4.64	4.30	6.25	5.75	1.40
13	2.88	5.40	5.39	4.80	7.30	7.30	1.55
14	3.20	5.85	6.40	5.30	7.95	8.50	1.75
15	3.84	6.94	7.55	6.20	9.30	9.90	1.95
16	5.18	8.46	8.70	7.20	10.45	10.70	2.15
18	5.94	9.57	11.30	7.80	11.45	13.15	2.40
20	6.55	10.60	14.15	8.95	13.00	16.55	2.60
22	10.67	15.40	18.30	12.70	17.40	20.30	2.85
24	11.43	16.70	21.75	13.60	18.90	23.95	3.15
26	21.00	28.60	33.00	21.00	28.60	33.00	3.50
28	24.32	33.00	37.55	24.32	33.00	37.55	3.85
30	25.79	35.60	42.00	25.79	35.60	42.00	4.15

WRITE FOR DISCOUNTS

STEAM and GAS FITTINGS

ELBOWS

Straight

CAST IRON

R. & L.H. Ells have ribs on L.H. end.

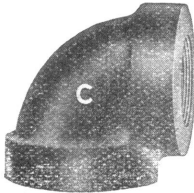


Fig. 124

SizeInches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3			
Price, R. H. Each	.05	.05	.06	.08	.10	.16	.20	.28	.50	.75
Price, R. and L. Each	.06	.06	.07	.09	.12	.18	.23	.32	.60	.85
Price, R. H., Galvanized. Each	.10	.10	.12	.16	.21	.32	.40	.56	1.00	1.50
Price, Pitched. Each				.10	.13	.20	.25	.35	.65	1.00

SizeInches	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	7	8	9	10	12
Price, R. H. Each	1.05	1.20	1.75	2.00	2.75	4.70	6.75	9.00	13.50	20.00
Price, R. H., Galvanized. Each	2.10	2.40	3.50	4.00	5.50	9.40	13.50	18.00	27.00	40.00
Price, Pitched. Each	1.30	1.50								

REDUCING ELBOWS

Cast Iron

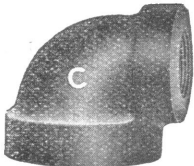


Fig. 125

SizeInches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$
Price. Each	.07	.09	.12	.18	.23	.32	.60	.85	1.20
Price, Galvanized. Each	.14	.18	.24	.36	.46	.64	1.20	1.70	2.40

SizeInches	4	4 $\frac{1}{2}$	5	6	7	8	9	10	12
Price Each	1.40	2.00	2.30	3.15	5.40	7.75	10.50	15.50	23.00
Price, Galvanized. Each	2.80	4.00	4.60	6.30	10.80	15.50	21.00	31.00	46.00

45° ELBOWS

Cast Iron



Fig. 126

SizeInches	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$			
Price Each	.06	.07	.10	.12	.19	.24	.34	.60	.90	1.25
Price, Galvanized. Each	.12	.14	.20	.24	.38	.48	.68	1.20	1.80	2.50

SizeInches	4	4 $\frac{1}{2}$	5	6	7	8	9	10	12
Price Each	1.45	2.20	2.50	3.45	5.90	8.50	11.25	17.00	25.00
Price, Galvanized. Each	2.90	4.40	5.00	6.90	11.80	17.00	22.50	34.00	50.00

TEES

Straight

CAST IRON

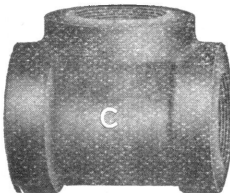


Fig. 127

SizeInches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3			
Price Each	.08	.08	.09	.12	.15	.23	.29	.41	.73	1.10
Price, Galv. Each	.16	.16	.18	.24	.30	.46	.58	.82	1.46	2.20

SizeInches	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	7	8	9	10	12
Price Each	1.50	1.75	2.55	3.00	4.00	6.80	9.75	13.00	19.50	29.00
Price, Galv. Each	3.00	3.50	5.10	6.00	8.00	13.60	19.50	26.00	39.00	58.00

WRITE FOR DISCOUNTS

REDUCING TEES

Cast Iron

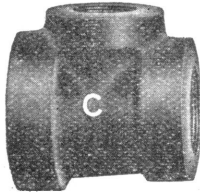


Fig. 128

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Price..... Each	.10	.14	.17	.27	.33	.47	.83	1.25	1.75
Price, Galv.... Each	.20	.28	.34	.54	.66	.94	1.66	2.50	3.50
Size.....Inches	4	$4\frac{1}{2}$	5	6	7	8	9	10	12
Price..... Each	2.00	2.95	3.50	4.60	7.80	11.25	15.00	22.50	33.50
Price, Galv.... Each	4.00	5.90	7.00	9.20	15.60	22.50	30.00	45.00	67.00

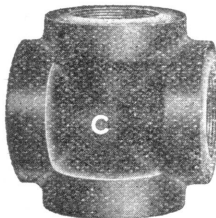


Fig. 129

CROSSES

Cast Iron.

Straight

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Price..... Each	.16	.22	.27	.42	.53	.75	1.30	2.00	2.70
Price, Galv.... Each	.32	.44	.54	.84	1.06	1.50	2.60	4.00	5.40
Size.....Inches	4	$4\frac{1}{2}$	5	6	7	8	9	10	12
Price..... Each	3.15	4.60	5.50	7.25	12.25	17.50	23.50	35.00	52.50
Price, Galv.... Each	6.30	9.20	11.00	14.50	24.50	35.00	47.00	70.00	105.00

Reducing Crosses

CAST IRON

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Price..... Each	.18	.25	.30	.46	.60	.83	1.45	2.20	3.00
Price, Galv.... Each	.36	.50	.60	.92	1.20	1.66	2.90	4.40	6.00
Size.....Inches	4	$4\frac{1}{2}$	5	6	7	8	9	10	12
Price..... Each	3.50	5.10	6.00	8.00	13.50	19.25	26.00	38.50	58.00
Price, Galv.... Each	7.00	10.20	12.00	16.00	27.00	38.50	52.00	77.00	116.00

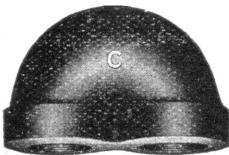


Fig. 130

RETURN BENDS

CAST IRON

Close Pattern

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Right Hand.... Each	.18	.20	.22	.28	.40	.57	1.20	1.70
Price, Right and Left... Each	.21	.23	.26	.33	.46	.66	1.40	1.95
Price, Left Hand..... Each	.21	.23	.26	.33	.46	.66	1.40	1.95
Price, Right Hand, Galv. . . Each	.36	.40	.44	.56	.80	1.14	2.40	3.40
Center to Center.....Inches	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$3\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{1}{4}$

WRITE FOR DISCOUNTS

RETURN BENDS, PITCHED

Close Pattern

CAST IRON

Suitable for Coils as per Table below

Size	Inches	1	1	1	1	1	1½	1½	1½
Length of Pipe in Coil..	Feet	3	4	5	6	8	4	5	6
Price, Right Hand...	Each	.26	.26	.26	.26	.26	.33	.33	.33
Price, Right and Left..	Each	.26	.26	.26	.26	.26	.33	.33	.33

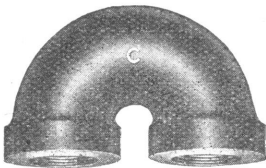


Fig. 131

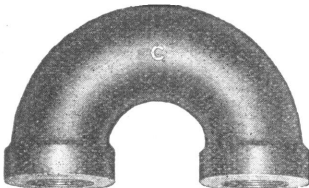
RETURN BENDS

CAST IRON

Open Pattern

Size.....	Inches	¾	1	1½	1½	2	2½	3
Price, Right Hand.....	Each	.26	.30	.40	.55	.80	1.35	2.20
Price, Right and Left.....	Each	.30	.35	.46	.64	.92	1.55	2.50
Price, Right Hand, Galvanized....	Each	.52	.60	.80	1.10	1.60	2.70	4.40
Center to Center....	Inches	1½	2½	3	3½	4½	5½	6½

Fig. 132



RETURN BENDS

Cast Iron

Wide Pattern.

Right Hand

Size.....	Inches	1	1	1	1	1	1½	1½	1½
Price	Each	.45	.50	.60	.75	1.00	1.00	1.25	1.30
Price, Galvanized ..	Each	.80	.90	1.10	1.30	1.60	1.75	2.00	2.30
Center to Center.	Inches	3	4	5	6	8	4	6	4½
Size.....	Inches	1½	1½	2	2	2	2	4	
Price	Each	1.60	2.00	1.75	2.00	3.00	3.50	7.50	
Price, Galvanized ...	Each	2.60	3.25	3.00	3.25	4.50	5.00	11.00	
Center to Center..	Inches	6	8	4½	6	7	8	11	

WRITE FOR DISCOUNTS

Return Bends, Back Outlet

CAST IRON

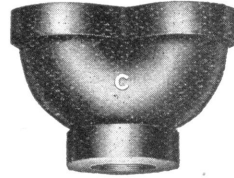


Fig. 133

SizeInches	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Price, Right Hand.Each	.38	.42	.60	.80	1.15	2.00	3.00
Price, Right and Left. . .Each	.42	.48	.70	.95	1.30	2.30	3.50
Price, Right Hand, Galv. Each	.76	.84	1.20	1.60	2.30	4.00	6.00
Center to CenterInches	1 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{1}{4}$	2 $\frac{1}{2}$	3 $\frac{1}{4}$	3 $\frac{3}{4}$	4 $\frac{1}{4}$

Y BENDS.

Cast Iron

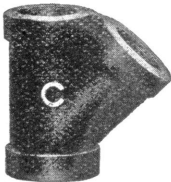


Fig. 134

Size.Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Price.Each	.20	.28	.34	.54	.66	.94	1.66	2.50
Price, Galvanized.Each	.40	.56	.68	1 08	1.32	1 88	3.32	5.00

Size.Inches	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	7	8	10
Price.Each	3.50	4.00	5.90	7.00	9.20	15.60	22.50	45.00
Price, Galvanized.Each	7.00	8.00	11.80	14.00	18.40	31.20	45.00	90.00

UNIONS.

Malleable Iron

SizeInches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{2}$
PriceEach	.18	.18	.20	.22	.27	.33	.46
Price, Galvanized.Each	.27	.27	.30	.33	.40	.50	.70

SizeInches	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4
PriceEach	.58	.75	1.55	2.10	3.65	4.35
Price, Galvanized.Each	.90	1.15	2.35	3.15	5.50	6.50

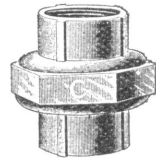


Fig. 135

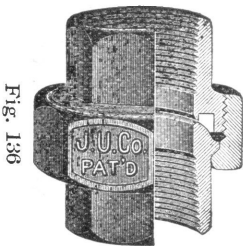


Fig. 136

THE JEFFERSON UNION

PRICE LIST

Size Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3
Price List	\$0.30	.40	.50	.60	.80	1.20	1.60	2.00	3.20	4.80
Galv. Each	.45	.60	.75	.90	1.20	1.80	2.40	3.00	4.80	6.20

THE JEFFERSON FLANGE UNION

PRICE LIST

Size, in.	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	4 $\frac{1}{2}$	5	6	7	8	9	10
Price	\$0.80	1.20	1.60	2.60	3.20	4.80	6.00	7.50	8.75	10.00	12.50	15.00	18.00	21.60	28.80

WRITE FOR DISCOUNTS

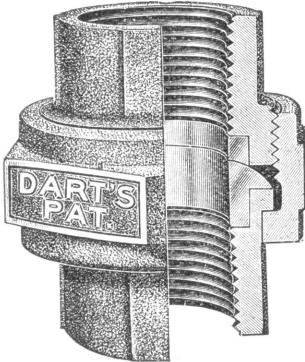


Fig. 136a

Dart's Patent Union

Bronze Seats

Ball Bearings

Ground Joints

Size, Inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Price list	\$0.30	.30	.40	.50	.60	.80	1.20	1.60	2.00	3.20	4.80
Gal'd., each	.45	.45	.60	.75	.90	1.20	1.80	2.40	3.00	5.80	6.20

Dart's Patent Flange Union Bronze Metal Ball Bearing Seats will make a tight and durable Joint when in or out of alignment.

Size, inches	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	7	8	9	10
Price list	\$0.80	1.20	1.60	2.00	3.20	4.80	6.00	7.50	10.00	12.50	15.00	18.00	21.60	28.80

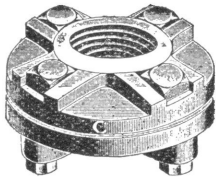


Fig. 137

FLANGE UNIONS

Cast Iron

Faced

Gasket Extra

Size.....Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Diameter of Flanges...Inches	3	3 1/8	3 3/8	4 1/8	4 3/8	5 1/4	6
Number of Bolts in each....	3	3	3	4	4	4	4
Price.....Each	.40	.46	.52	.64	.78	1.00	1.25
Price, Galvanized.....Each	.80	.92	1.04	1.28	1.56	2.00	2.50
Size.....Inches	3	3 1/2	4	4 1/2	5	6	7
Diameter of Flanges...Inches	6 1/2	6 7/8	7 5/8	8 3/4	9 1/8	10 1/8	12
Number of Bolts in each.....	4	4	5	5	5	6	7
Price.....Each	1.50	1.80	2.10	2.70	3.15	3.95	5.50
Price, Galvanized.....Each	3.00	3.60	4.20	5.40	6.30	7.90	11.00
Size.....Inches	8	9	10	12	14	15	16
Diameter of Flanges...Inches	13 1/2	14 1/2	16	18 1/2	20 1/2	20 3/4	23
Number of Bolts in each.....	8	9	10	12	14	14	16
Price.....Each	7.00	10.00	11.50	16.00	28.00	35.00	60.00
Price, Galvanized.....Each	14.00	20.00	23.00	32.00	56.00	70.00	

WRITE FOR DISCOUNTS

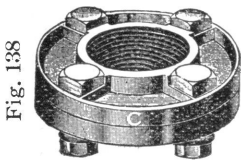


Fig. 138

FLANGE UNIONS

Malleable Iron

Faced

Gasket Extra

Size.....Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Diameter of Flanges...Inches	$2\frac{1}{8}$	$3\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{5}{8}$	$5\frac{1}{2}$	6	$6\frac{3}{4}$
Number of Bolts in each.....	3	4	4	4	4	4	4
Price.....Each	1.40	1.60	2.00	2.50	3.00	3.50	4.40
Price, Galvanized.....Each	2.80	3.20	4.00	5.00	6.00	7.00	8.80
Size.....Inches	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	8	
Diameter of Flanges...Inches	$7\frac{1}{2}$	8	$8\frac{5}{8}$	$9\frac{3}{8}$	$10\frac{5}{8}$	$13\frac{1}{8}$	
Number of Bolts in each.....	4	5	5	5	6	7	
Price.....Each	5.25	6.00	7.00	8.00	9.00	18.00	
Price, Galvanized.....Each	10.50	12.00	14.00	16.00	18.00	36.00	

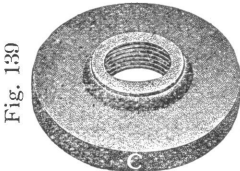


Fig. 130

CAST IRON FLANGES

Size of Pipe...Inches	%	$\frac{1}{4}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{4}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6	7	8	9	10	12	14	15	18
Diam. of Flange 3	* 10																					
" 3 1/2 "	* 15	* 15																				
" 4 "			22	* 16	* 16																	
" 4 1/2 "					.25	* 22																
" 5 "			30	.80	.80	.80																
" 5 1/2 "							* .35															
" 6 "				42	40	40	42	42														
" 6 1/2 "							.50	.50	.50													
" 7 "							.62	.62	.62													
" 7 1/2 "									.75													
" 8 "							.90	.90	.90	.90												
" 8 1/2 "									1.00	1.00												
" 9 "									1.15	1.15	1.15	1.15										
" 9 1/4 "											1.25											
" 10 "									1.50	1.50	1.50	1.50	1.50									
" 11 "										1.75	1.75	1.75										
" 12 "											2.20	2.20	2.20	2.20								
" 12 1/2 "												2.20	2.20	2.20								
" 13 "													2.80	2.80	2.80							
" 13 1/2 "														2.80	2.80	2.80						
" 14 "															3.25	3.25	3.25					
" 15 "																4.00	4.00	4.00				
" 16 "																	5.00	5.00	5.00			
" 17 "																		5.75	5.75			
" 18 "																			7.00	7.00		
" 19 "																				7.50	7.50	
" 20 "																					8.50	8.50
" 21 "																						9.50
" 22 1/4 "																						
" 23 1/4 "																						14.00

Those marked * are drilled for screw
 The above is considered a complete list. Other sizes made to order

BUSHINGS.

Cast Iron

Reducing two or more sizes, up to 2½ inch, inclusive.

Reducing one or more sizes, 3 inch and up

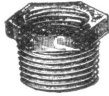


Fig. 140

Size . . . Inches	¾	½	¾	1	1¼	1½	2	2½	3	3½	4
Price . . . Each	.04	.04	.05	.06	.07	.09	.14	.21	.30	.40	.50
Price, Galv. Each	.08	.08	.10	.12	.14	.18	.28	.42	.60	.80	1.00
Size . . . Inches	4½	5	6	7	8	9	10	12			
Price . . . Each	.75	.93	1.25	1.87	2.75	3.25	3.75	5.00			
Price, Galv. Each	1.50	1.85	2.50	3.75	5.50	6.50	7.50	10.00			

BUSHINGS
Malleable Iron
Reducing 1 size only

Size . . . Inches	½	¾	1	1¼	1½	2	2½
Price Each	.04	.04	.04	.05	.06	.07	.09
Price, Galvanized . . . Each	.08	.08	.08	.10	.12	.14	.18
						.28	.42

Bushings Kept in Stock

¾	½	¾	1	1¼	1½	2
¾ by ¼	½ by ¼	¾ by ¼	1 by ¼	1¼ by ¼	1½ by ¾	2 by ½
	½ " ¾	¾ " ¾	1 " ¾	1¼ " ¾	1½ " ½	2 " ¾
		¾ " ½	1 " ½	1¼ " ½	1½ " ¾	2 " 1
			1 " ¾	1¼ " ¾	1½ " 1	2 " 1¼
				1¼ " 1	1½ " 1¼	2 " 1½
2½	3	3½	4	4½	5	6
2½ by 1	3 by 1	3½ by 2	4 by 1	4½ by 2	5 by 2	6 by 2
2½ " 1¼	3 " 1¼	3½ " 2½	4 " 1¼	4½ " 2½	5 " 2½	6 " 2½
2½ " 1½	3 " 1½	3½ " 3	4 " 1½	4½ " 3	5 " 3	6 " 3
2½ " 2	3 " 2		4 " 2	4½ " 4	5 " 3½	6 " 3½
	3 " 2½		4 " 2½		5 " 4	6 " 4
			4 " 3		5 " 4½	6 " 4½
			4 " 3½			6 " 5

Size . . . Inches	½	¾	1	1¼	1½	2	2½	3	3½
Price, Counter Each	.02	.02	.02	.02	.03	.04	.05	.07	.10
Price, Galvanized . . . Each	.04	.04	.04	.06	.08	.10	.14	.20	.36
				.50	.76				
Size Inches	4	4½	5	6	7	8	9	10	12
Price Each	.42	.65	.88	1.20	1.85	2.75	3.25	3.75	5.00
Price, Galvanized . . . Each	.84	1.30	1.75	2.40	3.70	5.50	6.50	7.50	10.00

Size . . . Inches	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Price, Counter Each			.04	.06	.08	.09	.11	.15	.30	.40	.92	1.10	2.00
Price, Tapped for Air Cock . . . Each			.12	.15	.20	.25	.30						
Price, Left Hand . . . Each			.06	.08	.09	.11	.15						
Price, Solid Each	.04	.04	.04	.06	.08	.09	.11	.15	.27	.38	.57	.63	1.00
									.135	1.80			

PLUGS.
Cast Iron



Fig. 141



Fig. 142

WRITE FOR DISCOUNTS

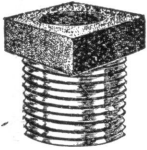


Fig. 143

FUSIBLE PLUGS

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Price.....Each	.60	.75	1.00	1.50	2.00	3.00
Price, Extra Long “	1.20	1.50	2.00	3.00	4.00	6.00

LOCK NUTS

Cast Iron

Fig. 144



Size.....Inches	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Price.....Each	.27	.34	.47	.64	.85	.90
Price, Galvanized.....Each	.54	.68	.94	1.28	1.70	1.80
Size.....Inches	6	7	8	9	10	12
Price.....Each	1.30	1.70	2.35	2.70	3.00	4.00
Price, Galvanized.....Each	2.60	3.40	4.70	5.40	6.00	8.00

Reducing Couplings Cast Iron

Size.....Inches	$4\frac{1}{2}$	5	6	7	8	9	10	12
Price.....Each	1.85	2.00	2.70	5.35	6.75	8.35	10.00	15.00
Price, Galvanized, Each	3.70	4.00	5.40	10.70	13.50	16.70	20.00	30.00



Fig. 145

CAPS.

Cast Iron



Fig. 146

Size...Inches	4	$4\frac{1}{2}$	5	6	7	8	9	10	12
Price.....Each	.87	1.05	1.20	1.55	2.50	2.85	4.75	5.50	7.00
Price, Galvanized, Each	1.74	2.10	2.40	3.10	5.00	5.70	9.50	11.00	14.00

MALLEABLE IRON FITTINGS

PRICE LIST

Class	A	B	C
Price, per lb., Black.....	40	20	12
Price, per lb., Galvanized.....	50	28	19

To obviate delay or mistake in execution of orders, Specifications should include Catalogue number or exact description of article.

Malleable Iron Fittings, for Steam, Gas and Water

P means Plain or Gas Pattern only.

B means Beaded Pattern only.

Fittings without mark are both Beaded and Gas.

Fittings $2\frac{1}{2}$ inches are Beaded only.

Fittings 3 inches and larger with Band only.

**IN ORDERING PLEASE SPECIFY WHETHER BEADED OR GAS
FITTINGS ARE WANTED
WRITE FOR DISCOUNTS**

Malleable Iron Fittings -- Continued

ELBOWS



Fig. 147

Beaded for Steam

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
1.	1/8	5 1/2	P A	29.	2x1 1/2	.195	C
2.	1/4 x 1/8	9	A	29 1/2	2x 3/4	.196	"
3.	3/8 x 1/8	14 3/4	P A	30	2x1	.188	"
4.	1/4	10	B	31	2x1 1/4	.196	"
5.	3/8 x 1/4	16	B	32	2x1 1/2	.178	"
6.	3/8	17 1/2	B	33	2	.214	"
7.	1/2 x 1/4	23 1/2	B	36	2 1/2 x 1 1/2	.280	"
8.	1/2 x 3/8	22 1/4	B	37	2 1/2 x 2	.380	"
9.	1/2	26	B	38	2 1/2	.385	"
11.	3/4 x 3/8	45	B	39	3x1 1/2	.500	"
12.	3/4 x 1/2	38	B	40	3x2	.460	"
13.	3/4	41 1/2	C	41	3x2 1/2	.536	"
15.	1x 3/8	52 3/4	B	42	3	.592	"
16.	1x 1/2	60	B	45	3 1/2 x 3	.806	"
17.	1x 3/4	60 1/2	C	46	3 1/2	.830	"
18.	1	65 1/4	C	47	4x2	.800	"
21.	1 1/4 x 3/4	91	C	48	4x3	.930	"
22.	1 1/4 x 1	98	C	49	4x3 1/2	.950	"
23.	1 1/4	97	C	50	4	1250	"
25.	1 1/2 x 3/4	130	C	51	4 1/2	1750	"
26.	1 1/2 x 1	106	C	52	5	2080	"
27.	1 1/2 x 1 1/4	144	C	53.	6	3250	"
28.	1 1/2	128	C				

45° ELBOWS

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
54.	1/4		B	54H.	2 1/2	309	B C
54A	3/8		B	54I	3	593	B "
54B	1/2	24 1/2	B B	54J	3 1/2	726	B "
54C	3/4	33 1/2	B B	54K	4	900	B "
54D	1	54	B B	54L	4 1/2		" "
54E	1 1/4	88	B B	54M	5		" "
54F	1 1/2	119	B B	54N	6		" "
54G	2	175	B B				" "

Fig. 148



Street Elbows

WRITE FOR DISCOUNTS

Malleable Iron Fittings -- STREET ELBOWS -- Continued

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
58..	1/4	13 B	B	68..	1 1/4	102 B	C
59..	3/8	16 1/4 B	B	71..	1 1/2 x 1 1/4	146 B	C
60..	1/2	27 3/4 B	B	72..	1 1/2	159 B	C
61..	3/4 x 1/2	45 B	B	74..	2 x 1 1/2	225 B	C
62..	3/4	49 1/2 B	B	75..	2	252 B	C
64..	1 x 3/4	62 B	B	75 1/2	2 1/2		C
65..	1	65 B	C	76..	3		C
67..	1 1/4 x 1	88 B	C				

Elbows Side Outlet



Fig. 148a

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
77..	3/8 x 3/8 x 1/4	14 P	B	89..	1 x 1 1/2	54 P	B
78	3/8 x 3/8 x 3/8	16 P	B	89	1 x 1 x 3/4	50 P	B
80..	1/2 x 1/2 x 3/8	23 P	B	90..	1 x 1 x 1	58 P	B
81..	1/2 x 1/2 x 1/2	28 P	B	94..	1 1/4 x 1 1/4 x 1	108 P	B
83..	3/4 x 3/4 x 3/8	29 P	B	95..	1 1/4 x 1 1/4 x 1 1/4	118 P	B
84..	3/4 x 3/4 x 1/2	31 P	B	95 1/2	1 1/2	151..	B
85..	3/4 x 3/4 x 3/4	32 P	B	95 3/4	2		B
87..	1 x 1 x 3/8	48 P	B				

Fig. 148b



Wing Back Elbows

FEMALE

MALE AND FEMALE

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
402..	1/4 x 1/4	15 1/2	B	413..	1/4 x 3/8	15 1/2	B
403..	3/8 x 1/4	20..	B	414..	3/8 x 3/8	19..	B
404..	3/8 x 3/8	18	B	415..	1/2 x 3/8	32..	B
406 1/2	1/2 x 3/8	28 3/4	B				
406..	1/2 x 1/2	26 1/2	B				
407..	3/4 x 1/2	41 1/2	B				
408	3/4 x 3/4	36..	B	422	1/4 x 3/8	22..	B
710	1 x 1	52 1/2	B	423	3/8 x 3/8	25 3/4	B

Elbows

Right and Left

Size	App. weight per 100 in lbs	Class
1/4 x 1/4	10	A
3/8 x 3/8	17 1/2	A
1/2 x 1/2	26	B
3/4 x 3/4	41 1/2	B
1 x 1	65 1/4	B
1 1/4 x 1 1/4	97	C
1 1/2 x 1 1/2	123	C
2 x 2	214	C

Union Elbows

Size, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Price with Female Union, each	42	54	63	90	105	155	285
" " Galv. " "	63	81	95	135	158	235	330
" " Male Union, " "	48	62	72	105	120	180	330
" " Galv. " "	72	93	108	160	180	270	495

MALLEABLE IRON FITTINGS -- Continued

Y'S

Fig 149



No.	Size	App. Weight per 100 in lbs	Class
676 C	1	113 B	B
676 D	1 1/4	187 B	B
676 E	1 1/2	285 B	B
676 F	2	437 B	B
676 G	2 1/2		B
676 H	3	1000 B	B

Caps

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
466	1/4	5 P	B	494	2 1/2	188	C
487	3/8	7 1/2 P	B	495	3	462	C
488	1/2	12 1/4	B	496	3 1/2	310	C
489	3/4	19 1/4	B	497	4	468	C
490	1	34 1/2	B	498	4 1/2		C
491	1 1/4	58	C	499	5		C
492	1 1/2	68	C	500	6		C
493	2	100	C				

TEES

BEADED, FOR STEAM



Fig. 150

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
100.	1/8	9P	A	149.	3/4 x 1/2 x 1/4	38	B
101.	1/8 x 1/4	9 1/2 P	A	150.	3/4 x 1/2 x 3/8	42	B
105.	1/4 x 1/8 x 1/8	10 1/2 P	A	151.	3/4 x 1/2 x 1/2	44	B
106.	1/4 x 1/8	9 3/4 P	A	152.	3/4 x 1/2 x 3/4	50 1/4	B
119.	3/8 x 1/8	12 1/4 P	A	153.	3/4 x 1/2 x 1	65	B
107.	1/4	12	B	154.	3/4 x 1/4	44	B
108.	1/4 x 3/8	17	B	155.	3/4 x 3/8	41	B
114.	3/8 x 1/4 x 1/4	18 1/2	B	156.	3/4 x 1/2	42	B
115.	3/8 x 1/4 x 3/8	18	B	157.	1/2	50 1/2	C
120.	3/8 x 1/4	17	B	158.	3/4 x 1	63	C
121.	3/8	18 1/2	B	159.	3/4 x 1 1/4	114	C
122.	3/8 x 1/2	23 3/4	B	161.	1 x 3/8 x 1/2	54	C
127.	1/2 x 1/4 x 3/8	24 1/2	B	162.	1 x 3/8 x 3/4	63	B
128.	1/2 x 1/4 x 1/2	28 1/2	B	163.	1 x 3/8 x 1	78 1/2	B
129.	1/2 x 3/8 x 1/4	24 3/4	B	164.	1 x 3/8 x 1 1/4	98 1/2	B
130.	1/2 x 3/8 x 3/8	23	B	165.	1 x 1/2 x 3/8	56	B
131.	1/2 x 3/8 x 1/2	27	B	166.	1 x 1/2 x 1/2	63	B
132.	1/2 x 3/8 x 3/4	40	B	167.	1 x 1/2 x 3/4	67 1/2	B
134.	1/2 x 1/4	23	B	168.	1 x 1/2 x 1	73	B
135.	1/2 x 3/8	25 1/2	B	169.	1 x 1/2 x 1 1/4	108	B
136.	1/2	29 1/8	B	170.	1 x 3/4 x 3/8	58 1/2	B
137.	1/2 x 3/4	41	B	171.	1 x 3/4 x 1/2	60	B
137 1/2	1/2 x 1	71	B	172.	1 x 3/4 x 3/4	71 1/4	C
138.	1/2 x 1 1/4	120	B	173.	1 x 3/4 x 1	72	C
139.	3/4 x 1/4 x 3/4	48	B	174.	1 x 3/4 x 1 1/4	105	C
140.	3/4 x 3/8 x 3/8	45	B	175.	1 x 1/4	59 1/4	B
146.	3/4 x 3/8 x 1/2	43	B	176.	1 x 3/8	62	B
147.	3/4 x 3/8 x 3/4	48	B	177.	1 x 1/2	64	B
148.	3/4 x 3/8 x 1	66	B	178.	1 x 3/4	71	C

Malleable Iron Fittings == Continued

Tees -- continued

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
179.	1	75.	C	224 1/2	1 1/2 x 1 1/4 x 2	198.	C
180.	1 x 1 1/4	100.	C	225.	1 1/2 x 2	180.	C
180 1/2	1 x 1 1/2	112.	C	225 1/2	2 x 3/8 x 2	236.	C
180 3/4	1 x 2	195.	C	226.	2 x 1/2 x 2	226.	C
181.	1 1/4 x 3/8 x 1	114.	C	226 1/2	2 x 3/4 x 2	240.	C
182.	1 1/4 x 3/8 x 1 1/4	183.	C	227.	2 x 1 x 2	224.	C
183	1 1/4 x 1/2 x 3/4	104.	C	227 1/2	2 x 1 1/4 x 1 1/4	201 1/2	C
184.	1 1/4 x 1/2 x 1	108.	C	228.	2 x 1 1/4 x 1 1/2	231.	C
185.	1 1/4 x 1/2 x 1 1/4	133 1/2	C	230.	2 x 1 1/4 x 3	236.	C
186.	1 1/4 x 3/4 x 3/4	106.	C	230 1/2	2 x 1 1/2 x 3/4	222.	C
188	1 1/4 x 3/4 x 3/4	100.	C	230 3/4	2 x 1 1/2 x 1	224.	C
189.	1 1/4 x 3/4 x 1	116.	C	281.	2 x 1 1/2 x 1 1/4	209 1/2	C
190.	1 1/4 x 3/4 x 1 1/4	132.	C	232.	2 x 1 1/2 x 1 1/2	224.	C
191.	1 1/4 x 1 x 3/8	81.	C	233.	2 x 1 1/2 x 2	244.	C
192.	1 1/4 x 1 x 1/2	92.	C	234.	2 x 3/8	154.	C
193.	1 1/4 x 1 x 3/4	100.	C	235.	2 x 1/2	160.	C
194.	1 1/4 x 1 x 1	116.	C	236.	2 x 3/4	161.	C
195.	1 1/4 x 1 x 1 1/4	106 1/4	C	237.	2 x 1	181.	C
196.	1 1/4 x 1 x 1 1/2	145.	C	238.	2 x 1 1/4	203.	C
197.	1 1/4 x 3/8	89.	C	239.	2 x 1 1/2	220.	C
198.	1 1/4 x 1/2	82.	C	240.	2	268 1/2	C
199.	1 1/4 x 3/4	106 1/2	C	249.	2 x 2 1/2	320 1/2	C
200.	1 1/4 x 1	107.	C	252.	2 1/2 x 1	815.	C
201.	1 1/4	132.	C	253.	2 1/2 x 1 1/4	295.	C
202.	1 1/4 x 1 1/2	156.	C	254.	2 1/2 x 1 1/2	300.	C
202 1/2	1 1/4 x 2	169.	C	255.	2 1/2 x 2	348.	C
203.	1 1/2 x 1/2 x 1	131.	C	256.	2 1/2	470.	C
204.	1 1/2 x 3/8 x 1 1/2	167.	C	257.	2 1/2 x 3	538.	C
205.	1 1/2 x 1/2 x 1 1/2	164.	C	258.	3 x 1	525.	C
205 1/2	1 1/2 x 3/4 x 1	115.	C	265.	3 x 1 1/4	530.	C
206.	1 1/2 x 3/4 x 1 1/4	140.	C	266.	3 x 1 1/2	533.	C
207.	1 1/2 x 3/4 x 1 1/2	155.	C	267.	3 x 2	610.	C
209.	1 1/2 x 1 x 3/4	110.	C	268.	3 x 2 1/2	632.	C
210.	1 1/2 x 1 x 1	125.	C	269.	3	745.	C
211.	1 1/2 x 1 x 1 1/4	151.	C	269 1/2	3 1/2 x 2		C
212.	1 1/2 x 1 x 1 1/2	154 1/2	C	280.	3 1/2 x 2 1/2	770.	C
213.	1 1/2 x 1 1/4 x 1 1/2	113 1/2	C	281.	3 1/2 x 3	950.	C
214.	1 1/2 x 1 1/4 x 3/4	112 1/2	C	282.	3 1/2	1008.	C
215.	1 1/2 x 1 1/4 x 1	127 1/2	C	291.	4 x 2	1110.	O
216.	1 1/2 x 1 1/4 x 1 1/4	144.	C	292.	4 x 2 1/2	1182 1/2	O
217.	1 1/2 x 1 1/4 x 1 1/2	160.	C	293.	4 x 3	1245.	O
219.	1 1/2 x 3/8	104.	C	294.	4 x 3 1/2	1513.	O
220.	1 1/2 x 1/2	112.	C	295.	4	1466.	O
221.	1 1/2 x 3/4	116.	C	296.	4 1/2		O
222.	1 1/2 x 1.	128.	C	297.	5	2680.	C
223.	1 1/2 x 1 1/4	156.	C	298.	6	4600.	C
224.	1 1/2	160.	C				

WRITE FOR DISCOUNTS

Malleable Iron Fittings -- Continued
Wing Back Tees

FEMALE

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
447..	$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	18 $\frac{1}{4}$	B	458..	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$	49..	B
449..	$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	17 $\frac{3}{4}$	B	459..	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{4}$	39..	B
450..	$\frac{3}{8} \times \frac{3}{8} \times \frac{3}{8}$	19 $\frac{1}{2}$	B	460..	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{8}$	44..	B
450 $\frac{1}{2}$	$\frac{1}{2} \times \frac{1}{4} \times \frac{1}{2}$	29 $\frac{1}{2}$	B	461..	$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$	45..	B
451..	$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{4}$	24..	B	462..	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$	57..	B
452..	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	26..	B	463..	$1 \times \frac{3}{4} \times \frac{3}{8}$	59..	B
453..	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$	28..	B	466..	$1 \times 1 \times \frac{3}{8}$	58..	B
454..	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	27 $\frac{1}{4}$	B	467..	$1 \times 1 \times \frac{1}{2}$	61..	B
455..	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	27..	B	469..	$1 \times 1 \times \frac{3}{4}$	.....	B
457..	$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{4}$	48..	B	470..	$1 \times 1 \times 1$	.....	B

Wing Back Tees
 MALE AND FEMALE

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
471..	$\frac{1}{4} \times \frac{1}{4} \times \frac{3}{8}$	17..	B	476..	$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{8}$	43..	B
472..	$\frac{3}{8} \times \frac{1}{4} \times \frac{3}{8}$	18..	B	477..	$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{8}$	51 $\frac{1}{2}$	B
472..	$\frac{3}{8} \times \frac{3}{8} \times \frac{3}{8}$	16 $\frac{1}{2}$	B	478..	$1 \times \frac{3}{4} \times \frac{3}{8}$	58 $\frac{3}{4}$	B
474..	$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	31 $\frac{1}{2}$	B	479..	$1 \times 1 \times \frac{3}{8}$	51 $\frac{3}{4}$	B
475..	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	25 $\frac{1}{4}$	B	.....	.....	.....	.....

Wing Back Tees

MALE and FEMALE with drop 2 $\frac{1}{2}$ inches long

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
480..	$\frac{3}{8} \times \frac{3}{8} \times \frac{3}{8}$	25 $\frac{1}{2}$	B	.....	.....	.....	.....

UNION TEES

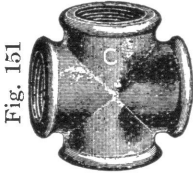
SIZE	INCHES	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Price with Female Union each		45	57	70	95	1 15	1 70	3 20
Price, Do Galv. "		68	86	1 05	1 45	1 75	2 55	4 80
Price, with Male Union "		52	65	80	1 10	1 30	1 95	3 70
Price, Do Galv. "		78	1 00	1 20	1 65	1 95	2 95	5 55.

WRITE FOR DISCOUNTS

Malleable Iron Fittings -- Continued

CROSSES

BEADED, FOR STEAM



No.	SIZE	App. Weight per 100 in lbs.	Class	No	SIZE	App. Weight per 100 in lbs.	Class
305.	1/4	15 3/4	B	363.	1 1/4 x 1.	132.	C
311.	3/8 x 1/4 x 1/4	17 3/4 P	B	364.	1 1/4	168.	C
312.	3/8 x 1/4	23.	B	368.	1 1/2 x 1 1/4 x 1 1/4	158 P	C
313.	3/8	24.	B	369.	1 1/2 x 3/8	119.	C
316.	1/2 x 3/8 x 1/4	24 P	B	370.	1 1/2 x 1/2	114 1/2	B
317.	1/2 x 3/8 x 3/8	27 P	B	371.	1 1/2 x 3/4	132.	C
318.	1/2 x 3/8 x 1/2	28 1/2 P	B	372.	1 1/2 x 1.	146.	C
319.	1/2 x 1/4	27.	B	373.	1 1/2 x 1 1/4	185.	C
320.	1/2 x 3/8	28.	B	374.	1 1/2	198.	C
321.	1/2	31.	B	378.	2 x 3/8	157.	B
328.	3/4 x 3/8 x 1/2	39 P	B	379.	2 x 1/2	180.	B
330.	3/4 x 1/2 x 3/8	39 P	B	380.	2 x 3/4	194.	C
330 1/2	3/4 x 1/2 x 3/4	50 P	B	381.	2 x 1	226.	C
331.	3/4 x 1/2 x 1/2	44 1/2 P	B	382.	2 x 1 1/4	252.	C
332.	3/4 x 1/4	50 1/4	B	383.	2 x 1 1/2	262.	C
334.	3/4 x 3/8	50.	B	384.	2	288.	C
335.	3/4 x 1/2	52.	B	388.	2 1/2 x 1 1/4	318.	C
336.	3/4	64.	B	389.	2 1/2 x 1 1/2	340.	C
340.	1 x 1/2 x 3/8	52 P	B	390.	2 1/2 x 2	380.	C
345.	1 x 3/4 x 3/8	52 P	B	391.	2 1/2	600.	C
346.	1 x 3/4 x 1/2	62 P	B	391 1/2	3 x 1 1/2	520.	C
347.	1 x 3/4 x 3/4	64 P	B	392.	3 x 2	613.	C
350.	1 x 3/8	68 1/2	B	393.	3 x 2 1/2	688.	C
351.	1 x 1/2	69.	B	394.	3	881.	C
352.	1 x 3/4	72.	B	396.	3 1/2	1030.	C
353.	1	92.	B	397.	4	1427.	C
357.	1 1/4 x 1 x 3/4	96 P	C	398.	4 1/2	.....	C
358.	1 1/4 x 1 x 1	105 P	C	399.	5	.....	C
360.	1 1/4 x 3/8	90.	B	400.	6	.....	C
361.	1 1/4 x 1/2	106.	B				
362.	1 1/4 x 3/4	118.	C				

Return Bends

OPEN

CLOSE



Fig. 152

No	Size	Center to Center in Inches	App. Weight per 100 in lbs.	Class	No	Size	Center to Center in Inches.	App. Weight per 100 in lbs.	Class
659	3/8	1 1/4	21 1/2	B	665 1/2	3/8	7/8	20.	B
660	1/2	1 1/2	41 1/2	B	666	1/2	1 1/8	35.	B
661.	3/4	2.	81 3/4	B	667	3/4	1 3/8	67	B
662.	1	2 1/2	133	B	668	1	1 3/4	100	B
663	1 1/4	3	191 1/4	C	669.	1 1/4	2 1/8	164	C
664.	1 1/2	3 1/2	314 1/2	C	670.	1 1/2	2 1/2	245.	C
665.	2	4 3/8	557	C	671	2	2 3/4	395.	C
665 A	2 1/2	4 3/4	760	C	672	2 1/2	3 3/8	625.	C
665 B	3	6 1/4	1085	C	673.	3	4 1/2	850	C
665 C	3 1/2	6 3/2	.....	C					
665 D	4	7	.....	C					

Malleable Iron Fittings -- Continued

RETURN BENDS -- continued

Fig. 152a



MEDIUM

EXTRA CLOSE

No	Size	Centre to Centre in Inches	App. Weight per 100 in lbs.	Class	No	Size	Center to Center in Inches.	App. Weight per 100 in lbs.	Class
674 A	1/2	1 1/4	37 B	B	675 A	3/4	1 1/4	79 P	B P
674 B	3/4	1 9-16	55 1/2 B	B	675 B	1	1 1/2	92 P	P
674 C	1	1 7/8	92 1/2 B	B					
674 D	1 1/4	2 1/4	163 B	C					
674 E	1 1/2	2 1/2	244 B	C					
674 F	2	3 1/2	328 1/2 B	C					

Fig. 153



LOCKNUTS

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
601	1/4	3 1/2	B	607	1 1/2	34	CCC
602	3/8	5 3/4	B	608	2	50	CCC
603	1/2	7 1/4	B	609	2 1/2	185	CCC
604	3/4	12 3/4	B	610	3	195	CCC
605	1	17 1/4	B	611	3 1/2	270	CCC
606	1 1/4	26 1/4	B	612	4	495	C

GAS FITTERS' HOOKS

Wrought Iron

Size	Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Price per 100		.30	.35	.40	.50	.65	.85	1.00	1.30

TINNED STRAPS

Size	Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Price per lb.		.18	.18	.18	.18	.18	.18	.18	.18

HEX. COUPLINGS

Right and Left

No.	Size	App. Weight per 100 in lbs.	Class	No.	Size	App. Weight per 100 in lbs.	Class
579	1/4 x 1/4		B	583	1 x 1	45 1/4	C
580	3/8 x 3/8	11	B	584	1 1/4 x 1 1/4	68	C
581	1/2 x 1/2	18 3/4	B	585	1 1/2 x 1 1/2	99	C
582	3/4 x 3/4	30	B	586	2 x 2	148	C

WRITE FOR DISCOUNTS

Malleable Iron Fittings == Continued

Reducing Couplings

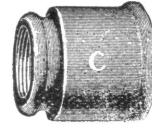


Fig. 151

No.	SIZE	App. Weight per 100 in lbs.	Class	No.	SIZE	App. Weight per 100 in lbs.	Class
519..	1/4 x 1/8	9	P A	534 3/4	2 x 1 1/2	84 1/2	B
520..	3/8 x 1/8	10 1/2	P A	535..	2 x 3/4	91	C
521..	3/8 x 1/4	11	P B	536..	2 x 1	100	C
522..	3/8 x 1/2	15 1/2	P B	537..	2 x 1 1/4	98	C
523..	1/2 x 3/8	15	P B	538..	2 x 1 1/2	105 1/2	C
523 1/2	3/4 x 1/4	23	P B	538 1/2	2 1/2 x 3/4		C
524..	3/4 x 3/8	22	P B	539..	2 1/2 x 1	185	C
525..	3/4 x 1/2	23 1/2	B	540..	2 1/2 x 1 1/4	174 1/2	C
525 1/2	1 x 1/4	30	B	541..	2 1/2 x 1 1/2	171	C
526..	1 x 3/8	32	B	542..	2 1/2 x 2	189	C
527..	1 x 1/2	33 3/8	B	543..	3 x 1	266	C
528..	1 x 3/4	34 3/4	B	544..	3 x 1 1/4	280	C
528 1/4	1 1/4 x 1/4	44	B	545..	3 x 1 1/2	250	C
528 1/2	1 1/4 x 3/8	50	B	546..	3 x 2	265	C
529..	1 1/4 x 1/2	42 1/2	B	547..	3 x 2 1/2	300	C
530..	1 1/4 x 3/4	41 1/2	C C	547 A	3 1/2 x 1 1/2		C
531..	1 1/4 x 1	46 1/2	C C	547 B	3 1/2 x 2		C
531 1/8	1 1/2 x 1/4	60	B	547 1/2	3 1/2 x 2 1/2	362	C
531 1/4	1 1/2 x 3/8	60	B	548..	3 1/2 x 3	370	C
531 1/2	1 1/2 x 1/2	58	B	518 A	4 x 1		C
532..	1 1/2 x 3/4	62	C C	548 1/2	4 x 2	430	C
533..	1 1/2 x 1	70	C C	549..	4 x 2 1/2	505	C
534..	1 1/2 x 1 1/4	68	C C	550..	4 x 3	580	C
534 1/4	2 x 1/4	83	B	550 1/2	4 x 3 1/2	495	C
534 1/2	2 x 3/8	94	B				



Fig. 155

Couplings

Right & Left

Right Hand

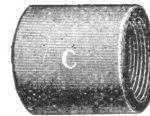
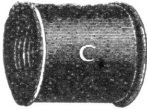


Fig. 156

No.	Size	App. Weight Hexagon	App. Weight per 100 in lbs.	Class	No.	Size	App. Weight per 100 Beaded	App. Weight per 100 in lbs.	Class
570..	1/8			A	587..	1/8		4 1/2	P A
571..	1/4		7 1/4	B	588..	1/4	7 1/2	6 1/4	P B
572..	3/8	11	13	B	589..	3/8		10 1/2	P B
573..	1/2	18 3/4	20 1/2	B	590..	1/2		18	P B
574..	3/4	30	29 3/4	B	591..	3/4		27 1/2	P B
575..	1	45 1/4	53 1/4	C C	592..	1		47 1/2	P C C
576..	1 1/4	68	80 1/2	C C	593..	1 1/4		70	P C C
577..	1 1/2	99	115	C C	594..	1 1/2		97	P C C
578..	2	148 1/2	170	C C	595..	2		148	P C C
579..	2 1/2			C C	596..	2 1/2			C C
580..	3			C C	597..	3			C C

WRITE FOR DISCOUNTS

Fig. 157



STANDARD WROUGHT IRON COUPLINGS

Size of Pipe. Inches.	Actual Outside Diameter. Inches.	Length of Coupling. Inches.	Weight of Coupling. Pounds.	No. of Threads per Inch of Screw.	Black. Each.	Galvanized. Each.	Right and Left. Black. Each.	Right Hand. Faced. Each.	Right Hand. Faced. Galvanized. Each.
1/8	3 9/32	1 5/16	.03	27	.05	.06			
1/4	3/4	1 3/8	.07	18	.05	.06	.07	.09	.14
3/8	3 9/32	1 3/8	.11	18	.06	.08	.08	.10	.15
1/2	1 3/8	1 1/2	.15	14	.07	.10	.11	.12	.18
3/4	1 13/16	1 9/16	.25	14	10	13	.15	.16	.24
1	1 7/8	1 1/2	.42	11 1/2	13	.18	.20	.22	.33
1 1/4	1 13/16	2 1/8	.60	11 1/2	.17	.25	.25	.30	.45
1 1/2	2 1/4	2 1/8	.81	11 1/2	.21	.32	.30	.40	.60
2	2 3/4	2 1/8	1.18	11 1/2	.28	.40	.50	.50	.75
2 1/2	3 1/8	2 7/8	1.70	8	.40	.55	.85	.70	1.00
3	3 1/2	3 1/8	2.45	8	.60	.80	1.20	.90	1.35
3 1/2	4 1/8	3 7/8	3.40	8	.80	1.05	1.60	1.20	1.80
4	4 1/2	3 7/8	3.50	8	1.00	1.40	2.00	1.50	2.25
4 1/2	5 1/4	3 5/8	4.70	8	1.50	2.00		2.10	
5	6 1/4	4 1/8	8.50	8	1.65	2.25		2.40	
6	7 3/4	4 1/8	9.70	8	2.40	3.25		3.60	
7	8 3/4	4 1/8	11.10	8	3.25				
8	9 1/4	4 5/8	13.60	8	4.25				
9	10 5/8	5 1/8	17.40	8	5.50				
10	11 5/8	6 1/8	31.10	8	7.50				
12	13 7/8	6 1/8	41.20	8	10.00				

Fig. 158



LONG SWEEP FITTINGS

Cast Iron

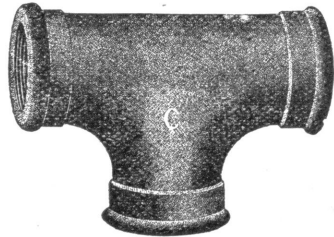


Fig. 159

Long Sweep Elbows

ELBOWS

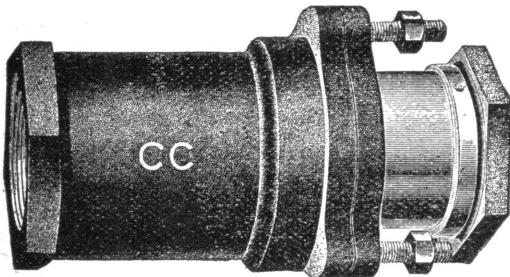
Long Sweep Tees, Straight Back

Size Inches	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Price Each	32	.40	.55	80	1.20	2.25	3.25	3.50
Price, Reducing . . Each	48	.60	.83	1.20	1.80	3.38	4.88	5.25
Size Inches	4 1/2	5	6	7	8	9	10	12
Price Each	5.50	6.50	8.75	13.00	17.00	25.50	30.00	40.00
Price, Reducing . . Each	8.25	9.75	13.13	19.50	25.50	38.25	45.00	60.00

Long Sweep Fittings == cont.

Tees, Straight Back

Size.....Inches	1	1½	1¾	2	2½	3	3½	4
Price.....Each	.64	.80	1.10	1.60	2.40	4.50	6.50	7.00
Price, Reducing.....Each	.96	1.20	1.65	2.40	3.60	6.75	9.75	10.50
Size.....Inches	4½	5	6	7	8	9	10	12
Price.....Each	11.00	13.00	17.50	26.00	34.00	51.00	60.00	80.00
Price, Reducing.....Each	16.50	19.50	26.25	39.00	51.00	76.50	90.00	120.00



Standard

EXPANSION JOINTS

Iron Body

Brass Sleeve

Fig. 160

Screwed. Standard Traverse

Size.....Inches	2	2½	3	3½	4	5
Traverse.....Inches	2½	2¾	2¾	3	3½	4
End to end, opened Inches	11½	12¼	13½	14¼	15¼	17¼
Price.....Each	7.00	8.00	10.00	14.00	18.00	38.00
Size.....Inches	6	7	8	9	10	12
Traverse.....Inches	5	6	7	7	7	8
End to end, opened Inches	20½	23¼	26½	27	28	31½
Price.....Each	45.00	70.00	100.00	110.00	160.00	225.00

Screwed. Special Traverse

TRAVERSE.	Size..Inches	2	2½	3	3½	4	5	6	7	8
6 in..	Price..Each	11.00	13.00	17.50	25.00	30.00	45.00	55.00		
10 in..	Price..Each	16.00	19.00	25.00	35.00	42.00	62.00	80.00	100.00	140.00
12 in..	Price..Each	18.50	22.00	29.00	40.00	48.00	70.00	92.50	115.00	160.00
14 in..	Price..Each	21.00	25.00	33.00	45.00	54.00	78.00	105.00	130.00	
16 in..	Price..Each	23.50	28.00	37.00	50.00	60.00	86.00	117.50	145.00	
18 in..	Price..Each	26.00	31.00	41.00	55.00	66.00	94.00	130.00		

This expansion will average about 2 to 3 inches in 100 feet of pipe.

WRITE FOR DISCOUNTS

Fig 101



WROUGHT IRON NIPPLES

Table of Sizes and Lengths kept in stock

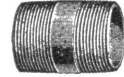


Fig 102

Close

Shoulder

LENGTH, INCHES.						SIZE, INCHES.	PRICES.			PRICE OF EXTRA LONG NIPPLES.									
Close	Short.	Long					Close or Short.	Long.	INCHES.										
		4	5	6	7	8			9	10	11	12							
3/4	1 1/2	2	2 1/2	3	3 1/2	3/4	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19		
1	1 1/2	2	2 1/2	3	3 1/2	1/2	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19		
1 1/8	1 1/2	2	2 1/2	3	3 1/2	1/2	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19		
1 1/8	1 1/2	2	2 1/2	3	3 1/2	1/2	.05	.07	.08	.10	.12	.14	.16	.18	.20	.22	.23		
1 1/8	2	2 1/2	3	3 1/2	4	3/4	.06	.09		.11	.13	.17	.18	.20	.22	.24	.26		
1 1/8	2	2 1/2	3	3 1/2	4	1	.08	.13		.15	.18	.23	.25	.28	.31	.34	.36		
1 1/8	2 1/2	3	3 1/2	4	4 1/2	1 1/4	.11	.17		.20	.24	.29	.33	.36	.40	.44	.47		
1 1/8	2 1/2	3	3 1/2	4	4 1/2	1 1/2	.13	.20		.25	.29	.36	.40	.45	.50	.54	.59		
2	2 1/2	3	3 1/2	4	4 1/2	2	.18	.27		.32	.38	.50	.54	.59	.65	.72	.77		
2 1/2	3	3 1/2	4	4 1/2	5	2 1/2	.39	.59			.68	.90	.97	1.06	1.17	1.26	1.35		
2 1/2	3	3 1/2	4	4 1/2	5	3	.48	.72			.85	1.08	1.20	1.33	1.45	1.58	1.70		
2 1/2	4	4 1/2	5	5 1/2	6	3 1/2	.75	1.05				1.30	1.43	1.60	1.75	1.90	2.05		
3	4	4 1/2	5	5 1/2	6	4	.85	1.20				1.52	1.69	1.87	2.05	2.22	2.40		
3	4	4 1/2	5	5 1/2	6	4 1/2	1.25	1.70				2.25	2.50	2.75	2.95	3.17	3.40		
3 1/2	4 1/2	5	5 1/2	6	6 1/2	5	1.55	2.45				2.58	2.83	3.10	3.35	3.60	3.85		
3 1/2	4 1/2	5	5 1/2	6	6 1/2	6	1.85	2.90				3.05	3.35	3.70	4.00	4.30	4.65		
3 1/2	5					7	3.20				3.60	4.05	4.45	4.90	5.30	5.75	6.15		
3 1/2	5					8	3.55				4.05	4.55	5.05	5.50	6.00	6.50	7.00		
4	5					9	5.25						6.50	7.10	7.75	8.40	9.00		
4	5					10	6.75						8.25	8.90	9.70	10.40	11.15		
4	5					12	8.00						10.00	10.80	11.75	12.70	13.65		

Nipples made to order from Extra Heavy Pipe at Double above list.

Nipples larger than 12 inch made to order and charged as cut pipe, and threads extra.

WRITE FOR DISCOUNTS

Wrought Iron Nipples==continued

PLAIN, RIGHT AND LEFT

TABLE OF SIZES AND LENGTHS

LENGTH. INCHES.					SIZE, INCHES.	PRICES.		PRICE OF EXTRA LONG NIPPLES.									
Close.	Short.	Long.				Close or Short.	Long.	INCHES.									
								4	5	6	7	8	9	10	11	12	
$\frac{3}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{3}{8}$	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
$\frac{7}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{2}$	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{3}{4}$	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
$1\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{2}$	.07	.10	.11	.13	.16	.18	.21	.24	.27	.29	.31
$1\frac{3}{8}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$\frac{3}{4}$	.08	.12		.15	.17	.23	.25	.27	.29	.32	.35
$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	1	.11	.18		.20	.24	.31	.33	.37	.41	.45	.48
$1\frac{5}{8}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{4}$	.15	.23		.27	.32	.39	.45	.50	.55	.60	.65
$1\frac{3}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{2}$	.18	.27		.34	.39	.48	.52	.60	.67	.72	.80
2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	2	.24	.36		.43	.51	.67	.72	.80	.87	.96	1.03
$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$2\frac{1}{2}$	.52	.79			.91	1.20	1.30	1.40	1.55	1.68	1.80
$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	3	.65	.96			1.13	1.44	1.60	1.77	1.93	2.10	2.27
$2\frac{3}{4}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$3\frac{1}{2}$	1.00	1.40				1.75	1.95	2.15	2.35	2.55	2.75
3	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	4	1.15	1.60				2.00	2.25	2.50	2.75	3.00	3.25

WRITE FOR DISCOUNTS

If in want of Second-hand Refitted Engines, Boilers, Mill & Factory Machinery, Write. Address Refitted Machinery Dept. We have the Largest Stock under the British Flag

Wrought Iron Nipples==continued

GALVANIZED

Right Hand

Table of Sizes and Lengths

LENGTH INCHES.					SIZE INCHES.	PRICES.			PRICE OF EXTRA LONG NIPPLES.									
Close.	Short.		Long.			Close or Short.	Long.	INCHES.										
	4	5	6	7				8	9	10	11	12						
$\frac{3}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{3}{8}$	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
$\frac{7}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{4}$	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{5}{16}$	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
$1\frac{1}{8}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	$\frac{1}{2}$	.06	.11	.13	.16	.18	.23	.26	.28	.31	.33	.36
$1\frac{3}{8}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$\frac{3}{4}$	.08	.14		.18	.21	.26	.29	.32	.35	.38	.41
$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	1	.11	.19		.24	.28	.34	.38	.42	.47	.51	.55	
$1\frac{3}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{4}$	.17	.29		.32	.38	.45	.51	.57	.63	.69	.75
$1\frac{7}{8}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$1\frac{1}{2}$	.21	.35		.39	.46	.55	.63	.70	.77	.84	.91
2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	2	.27	.47		.52	.61	.74	.83	.93	1.03	1.13	1.23	
$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$2\frac{1}{2}$	.56	.86			1.00	1.26	1.41	1.56	1.71	1.86	2.01
$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	3	.70	1.10			1.30	1.60	1.80	2.00	2.20	2.40	2.60	
$2\frac{3}{4}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$3\frac{1}{2}$	1.20	1.70				2.10	2.35	2.60	2.85	3.15	3.40	
3	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	4	1.35	1.87				2.30	2.60	2.90	3.20	3.50	3.80	
3	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$4\frac{1}{2}$	1.85	2.60				3.30	3.65	4.05	4.45	4.85	5.25	
$3\frac{1}{8}$	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	5	2.30	3.15				3.75	4.20	4.60	5.00	5.40	5.85	
$3\frac{1}{4}$	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$	6	2.80	4.25				4.50	5.00	5.55	6.05	6.60	7.15	
$3\frac{1}{2}$	5					7	4.25					4.95	5.65	6.35	7.05	7.75	8.45	9.20
$3\frac{3}{4}$	5					8	5.00					5.80	6.65	7.50	8.35	9.25	10.10	10.95

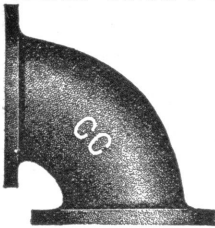


Fig. 163

Flanged Elbows

Standard

FLANGED ELBOWS

125 lbs. Steam working pressure

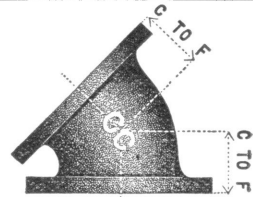


Fig. 164

45° Flanged Elbow

Size. Inches.	Center to Face. Inches.	Diam. of Flanges. Inches.	PRICE.		Size. Inches.	Center to Face. Inches.	Diam. of Flanges. Inches.	PRICE.	
			With Faced Flanges. Each.	With Faced and Drilled Flanges. Each.				With Faced Flanges. Each.	With Faced and Drilled Flanges. Each.
1¼	3¾	4½	4.75	5.75	1¼	2	4½	5.25	6.25
1½	4	5	4.75	5.75	1½	2¼	5	5.25	6.25
2	4½	6	4.75	5.75	2	2½	6	5.25	6.25
2½	5	7	5.00	6.25	2½	3	7	5.50	6.75
3	5½	7½	5.75	7.00	3	3	7½	6.25	7.50
3½	6	8½	6.50	7.75	3½	3½	8½	7.25	8.50
4	6½	9	7.25	9.25	4	4	9	8.00	10.00
4½	7	9¼	9.00	11.00	4½	4	9¼	10.00	12.00
5	7½	10	9.75	11.75	5	4½	10	10.75	12.75
6	8	11	12.00	14.00	6	5	11	13.00	15.00
7	8½	12½	16.00	19.75	7	5½	12½	16.00	19.75
8	9	13½	20.00	23.75	8	5½	13½	20.00	23.75
9	10	15	26.00	30.00	9	6	15	26.00	30.00
10	11	16	32.00	36.00	10	6½	16	32.00	36.00
12	12	19	44.00	50.00	12	7½	19	44.00	50.00
14	14	21	58.00	65.00	14	7½	21	58.00	65.00
15	14½	22½	72.00	80.00	15	8	22½	72.00	80.00
16	15	23½	84.00	93.00	16	8	23½	84.00	93.00

NOTE—Larger sizes made to order. Prices on application. Flanged Fittings will always be furnished faced only, unless otherwise ordered.

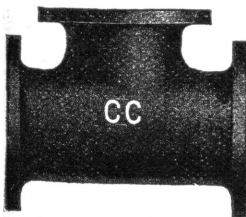


Fig. 165

Flanged Tees

Standard

FLANGED TEES

125 lbs. Steam working pressure

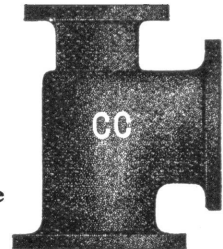


Fig. 165A

Reducing Flanged
Tees

Reducing in run or branch

STANDARD FLANGE TEES -- continued

Size. Inches.	Center to Face. Inches.	Face to Face Inches.	Diam- eter of Flanges. Inches.	PRICE.		Size. Inches.	PRICE.	
				With Faced Flanges. Each.	With Faced and Drilled Flanges. Each.		With Faced Flanges. Each.	With Faced and Drilled Flanges. Each.
1¼	3¾	7½	4½	7.00	8.50			
1½	4	8	5	7.00	8.50	1½	8.00	9.50
2	4½	9	6	7.00	8.50	2	8.00	9.50
2½	5	10	7	7.25	9.00	2½	8.25	10.00
3	5½	11	7½	8.25	10.00	3	9.50	11.25
3½	6	12	8½	9.50	11.25	3½	11.00	12.75
4	6½	13	9	10.50	13.50	4	12.00	15.00
4½	7	14	9½	13.00	16.00	4½	15.00	18.00
5	7½	15	10	14.25	17.25	5	16.25	19.25
6	8	16	11	17.50	20.50	6	20.00	23.00
7	8½	17	12½	23.00	28.75	7	26.50	32.00
8	9	18	13½	29.00	34.75	8	33.50	39.00
9	10	20	15	38.00	44.00	9	43.50	50.00
10	11	22	16	46.50	52.50	10	53.50	60.00
12	12	24	19	64.00	73.00	12	74.00	83.00
14	14	28	21	84.00	95.00	14	96.00	107.00
15	14½	29	22½	105.00	117.00	15	120.00	132.00
16	15	30	23½	122.00	135.00	16	140.00	153.00

NOTE.— Larger sizes made to order. Prices on application. Flanged Fittings will always be furnished faeced only, unless otherwise ordered.

Cast Iron

CAR HEATER FITTINGS

Extra Heavy

Elbows



Fig. 166

Size. Inches.	PRICE	
	R. H. Each.	R. and L. Each.
½	.22	.22
¾	.25	.25
1	.27	.27
1½	.30	.30
1½x1¼	.45	.45
1½	.45	.45
2	.55	.55

WRITE FOR DISCOUNTS

Cast Iron Car Heater Fittings Extra Heavy -- continued

Tees

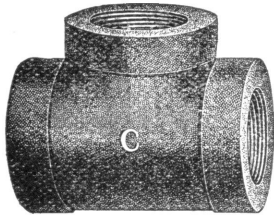


Fig. 167

Size. Inches.	PRICE. Each.
$\frac{1}{2}$	.30
$\frac{3}{4}$	.35
1	.40
$1\frac{1}{4}$	.45
$1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{1}{2}$	.45
$1\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{3}{4}$	.45
$1\frac{1}{4} \times 1\frac{1}{4} \times 1\frac{1}{2}$	.45
$1\frac{1}{2} \times 1\frac{1}{2} \times 1\frac{3}{4}$	.65
$1\frac{1}{2}$	.65
2	.85

Return Bends

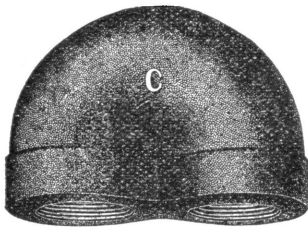


Fig. 168

Size. Inches.	Distance between Centers.	PRICE. Each.
1	$2\frac{3}{8}$	.45
$1\frac{1}{4}$	$2\frac{3}{8}$	.45
$1\frac{1}{4}$	3	.50
$1\frac{1}{4}$	4	.60
$1\frac{1}{4}$	5	.70
$1\frac{1}{4}$	6	.85
$1\frac{1}{4}$	8	1.10
$1\frac{1}{2}$	$2\frac{1}{2}$	.80
$1\frac{1}{2}$	$3\frac{1}{2}$	1.10
2	$3\frac{1}{4}$	1.00
2	$4\frac{1}{2}$	1.75

BRANCH TEES

End Feed

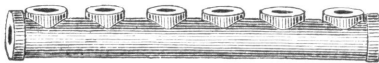


Fig. 169

Back Feed

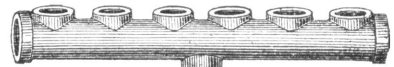


Fig. 170

Side Feed



Fig. 171

For $\frac{3}{4}$ Inch Pipe—2 Inches Centre to Centre. End Feed. $1\frac{1}{2}$ in. Run.

Inside Diam. Inches	Number of Branches										
	2	3	4	5	6	7	8	9	10	11	12
$2\frac{1}{2}$	1.00	1.15	1.30	1.45	1.75	2.20	2.45	2.90	3.30	4.50	4.75

WRITE FOR DISCOUNTS

BRANCH TEES -- continued

For 1-Inch Pipe—2½ Inches Centre to Centre. End Feed.

Inside Diam. Inches	Size of Run, In.	Number of Branches										
		2	3	4	5	6	7	8	9	10	11	12
2⅜	1½	1.00	1.15	1.30	1.45	1.75	2.20	2.45	2.90	3.30	4.50	4.75
2⅞	2	1.15	1.35	1.60	1.85	2.10	2.45	2.75	3.40	4.00	4.80	5.10
2⅞	2½	1.75	2.05	2.40	2.75	3.10	3.50	3.75	4.30	5.00	5.50	5.85

For 1¼-Inch Pipe—3 Inches Centre to Centre. End Feed.

Inside Diam. Inches	Size of Run, In.	Number of Branches										
		2	3	4	5	6	7	8	9	10	11	12
2⅞	2	1.50	1.90	2.40	2.90	3.30	3.90	4.50	5.25	5.85	6.25	6.50
3⅜	2½	1.95	2.40	2.85	3.55	3.95	4.20	4.95	6.15	6.85	7.25	7.65

For 1½-Inch Pipe—3½ Inches Centre to Centre. End Feed.

Inside Diam. Inches	Size of Run, In.	Number of Branches										
		2	3	4	5	6	7	8	9	10	11	12
2⅞	2½	2.85	3.45	4.15	5.00	5.75	6.50	7.00	8.25	9.25	9.75	10.50
3⅜	2	3.15	3.80	4.60	5.50	6.25	7.25	7.75	9.00	10.00	10.75	11.50

For 2-Inch Pipe—4½ Inches Centre to Centre. End Feed.

Inside Diam. Inches	Size of Run, In.	Number of Branches										
		2	3	4	5	6	7	8	9	10	11	12
3⅜	2½	4.50	5.75	7.00	8.50	9.75	11.75	12.75	13.50	15.00	15.75	16.50
3⅜	3	4.50	5.75	7.00	8.50	9.75	11.75	12.75	13.50	15.00	15.75	16.50
4	3½	5.00	6.25	7.75	9.25	10.75	13.00	14.00	15.00	16.50	...	...

Back or Side Outlets, are charged as additional Front Outlets.

Back or Side Outlets larger than the Run will add 50 per cent. to above prices.

When not otherwise ordered, all openings are Tapped Right.

Hook Plates

Single Hook Plate



Fig. 172

Single Hook

Size of Pipe, Inches	1	1¼	1½	2	2½	3
	.09	.10	.15	.22	.45	.60

WRITE FOR DISCOUNTS



Hook Plates, == cont.

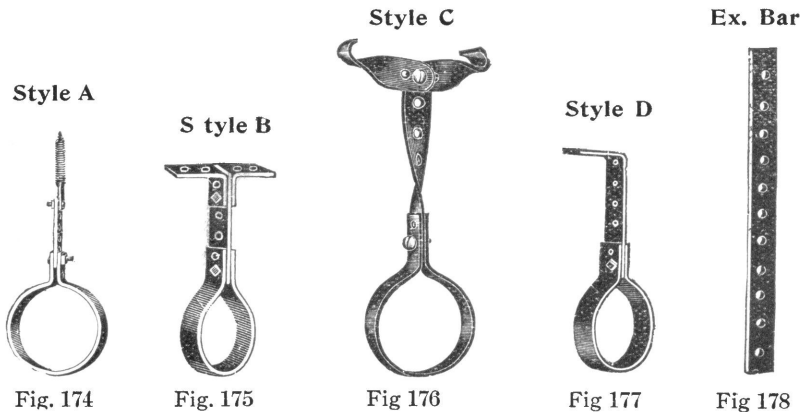
6 Branch Hook Plate

Number of Branches	2	3	4	5	6	7	8	9	10	11	12
1 in. Pipe, 2½ in. Centre to Cen. each	.18	.23	.26	.32	.38	.48	.59	.65	.70	.85	1.00
1¼ in. Pipe, 3 in. " "	.21	.27	.32	.41	.52	.68	.80	.90	1.20	1.35	1.40
1½ in. Pipe, 3½ in. " "	.28	.43	.58	.72	.88	1.10	1.25	1.40	1.55	1.65	1.90
2 in. Pipe, 4½ in. " "	.43	.65	.90	1.15	1.35	.....	.....	.....	.....	.....	.....

Fig. 173

PIPE HANGERS

The Grabler Universal Pipe Hanger



Size of Pipe for Hangers	¾	1	1¼	1½	2	2½	3	3½	4	5	6	7	8	9	10	11	12
Fig.176 Style A. price ea	.20	.22	.24	.28	.30	.32	.40	.44	.48	.54	.60	.95	1.25	1.60	1.90	2.20	2.50
Fig.177 Style B. " "	.20	.20	.22	.24	.28	.30	.32	.40	.44	.48	.54	.78	1.02	1.25	1.50	1.75	2.00
Fig.178 Style C. " "	.20	.22	.24	.28	.30	.32	.40	.44	.48	.54	.60	.95	1.25	1.60	1.90	2.20	2.50
Fig.179 Style D. " "	.16	.18	.20	.22	.24	.26	.28	.32	.34	.38	.42	.65	.90	1.15	1.40	1.65	1.90

Fig. 180 Steel Extension Bar—10 Feet Lengths

Size of Pipe, Inches.....	1 & 2	3 & 4	5 & 6	7 & 8	9 & 10	12
Dimensions of Bar	No. 12x⅞	No. 10x1	No. 9x⅞	⅞x1½	¾ x 2	¾ x 2½
Price.....per foot	.08	.09	.10	.18	.24	.32

NOTE.—Four inches, of Extension Bar furnished with each Hanger, with Bolt Holes one inch apart.

WRITE FOR DISCOUNTS

RAILING FITTINGS

Malleable Iron

For Fences, Enclosing Engines and Machinery, Exhibition Spaces, Etc.

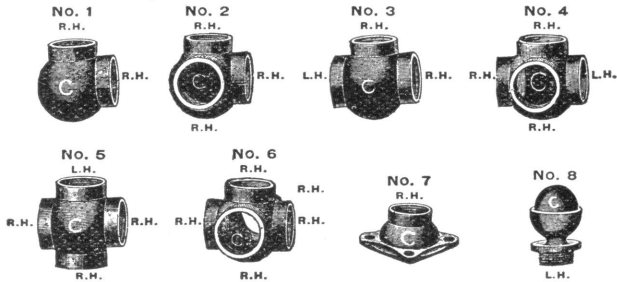


Fig. 179

Instructions for Ordering

In ordering these Fittings, describe kind wanted by number and size.
 Fittings tapped as above will be furnished, unless otherwise specified.
 Fittings tapped otherwise than those shown on the above cuts will be charged at 15 per cent. additional, net.

Pipe Size..... Ins.		¾	1	1¼	1½	2
Price, No. 1, Elbow..... Each	18	.20	.35	.45	.72	
Price, No. 2, Elbow, Side Outlet. "	23	.25	.40	.50	.80	
Price, No. 3, Tee..... "	23	.25	.40	.50	.75	
Price, No. 4, Tee, Side Outlet... "	33	.35	.45	.55	.90	
Price, No. 5, Cross..... "	33	.35	.45	.58	1.00	
Price, No. 6, Cross, Side Outlet. "	38	.40	.50	.65	1.35	
Price, No. 7, Floor Flange..... "	18	20	40	50	90	
Price, No. 8, Acorn Ornament.. "	18	20	25	35	90	

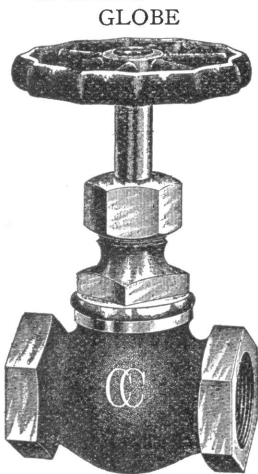


FIG. 180

Standard
 Globe and Angle
 Valves
 Brass

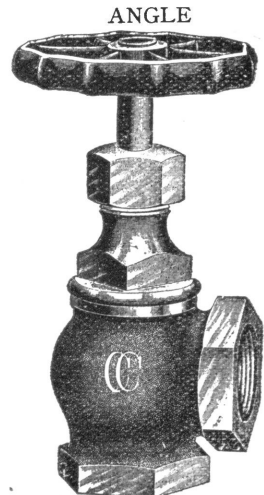


FIG. 181

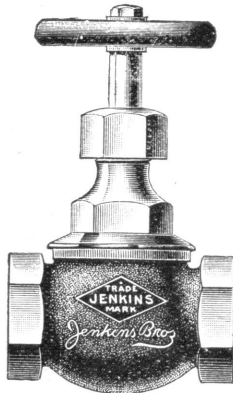
WRITE FOR DISCOUNTS

Standard Globe & Angle Valves == cont.

Size.....Inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price.....Each	.72	.72	.77	1.00	1.26	1.80	2.52
Size.....Inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	
Price.....Each	3.50	5.30	10.00	14.40	26.50	36.00	

Jenkins' Bros. Brass Globe & Angle Valves

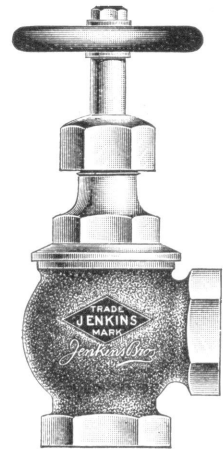
Standard Pattern



Screwed, Fig. 182

Price List

Size	Screwed	Flanged
$\frac{1}{8}$	1.10	.
$\frac{1}{4}$	1.10	3.50
$\frac{3}{8}$	1.25	4.00
$\frac{1}{2}$	1.60	4.00
$\frac{3}{4}$	2.20	5.00
1	2.80	6.00
$1\frac{1}{4}$	4.00	9.00
$1\frac{1}{2}$	5.50	11.00
2	8.75	16.50
$2\frac{1}{2}$	15.75	25.00
3	22.00	34.00



Screwed, Fig. 182a



Fig. 183

Jenkins' Discs

New Style, or Square Hole Discs

Price List of Jenkins' Discs for Valves

Sizes	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Prices	.03	.08	.08	.10	.12	.18	.24	.36	.48	.66	.90	1.04	1.20	1.36
Sizes	6	7	8	9	10	12	14	16	18	20	24			
Prices	1.80	1.93	2.40	3.20	3.50	4.50	6.00	8.00	10.00	12.00	18.00			

WRITE FOR DISCOUNTS

Globe & Angle Regrinding Valves

Medium Pattern

Screw Ends. For Working Pressures up to 200 Pounds.

Brass

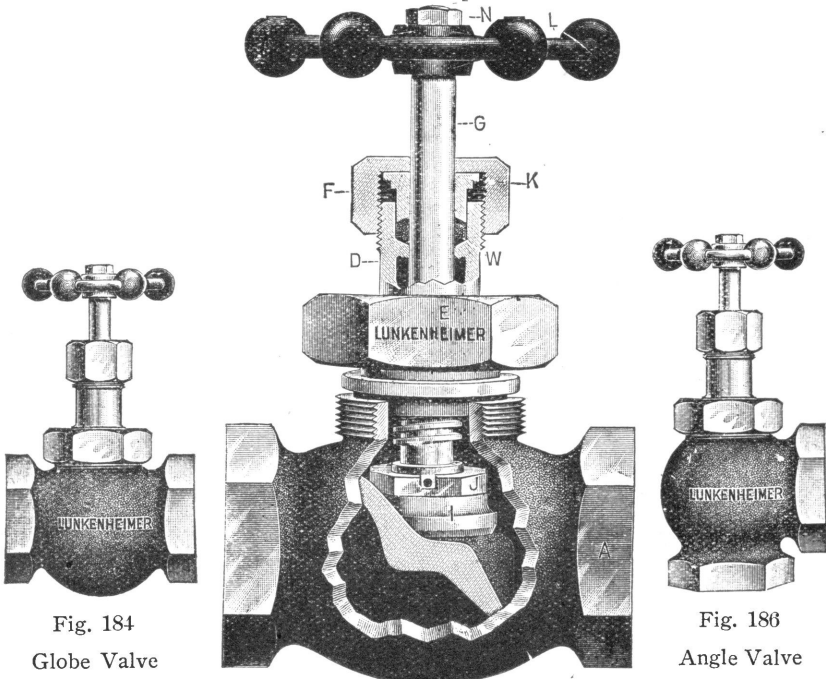


Fig. 184
Globe Valve

Fig. 185 Sectional View

Fig. 186
Angle Valve

These valves can be reground without being removed from the pipe, and can be packed under pressure.

PRICE LIST

Size.....Inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Brass Screwed..... Each	70	70	85	1.15	1.45	2.00	2.80	3.90	6.20	12.00	16.50	30.00	40.00
Fin'd Brass, Wheel, Brass, Screw Ends, Each	1.75	1.90	2.15	2.50	3.10	3.65	5.25	7.25	10.75	22.00	33.50	.....

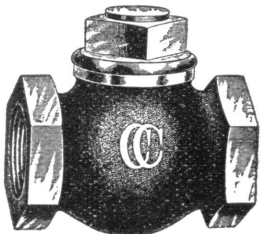


Fig. 187

Standard

Horizontal Check Valves

Brass

Horizontal Check Valves, Brass == cont.

Size.....Inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Screwed..... Each	.65	.65	.70	.90	1.15	1.60	2.25
Flanged Each					4.90	6.50	8.25
Diameter of Flanges..Inches					$3\frac{1}{2}$	4	$4\frac{1}{2}$

Size.....Inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Screwed..... Each	3.15	4.75	9.00	13.00	24.00	32.50
Flanged..... Each	10.15	15.50	22.00	33.50	47.50	66.50
Diameter of Flanges..Inches	5	6	7	$7\frac{1}{2}$	$8\frac{1}{2}$	9

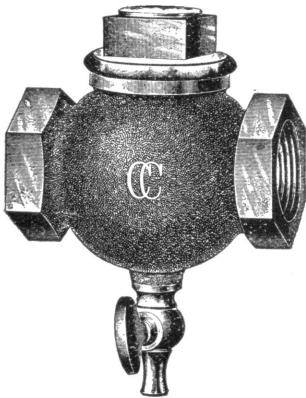


Fig. 188

Horizontal Check Valves

Brass
With Drip Cock

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price with Drip Cock..... Each	2.15	2.55	3.15	4.05
Price without Drip Cock..... Each	1.85	2.20	2.70	3.60

Standard

CHECK VALVES

Vertical

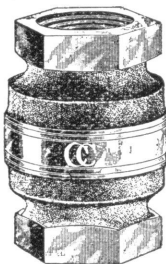


Fig. 189

Brass

Angle

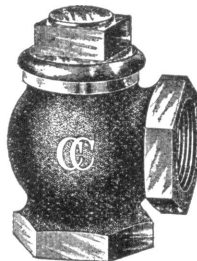


Fig. 190

Size.....Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price, Vertical..... Each			.72	.77	1.00	1.26	1.80	2.52	3.50	5.30
Price, Angle..... Each	.72	.77	1.00	1.26	1.80	2.52	3.50	5.30	10.40	14.40

WRITE FOR DISCOUNTS

Jenkins Bros. Brass Check Valves

STANDARD PATTERN
Horizontal, Angle and Vertical, Screwed

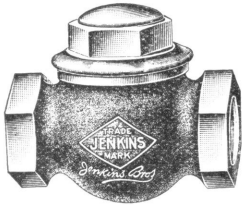


Fig. 191
Horizontal, Screwed



Fig. 192
Angle, Screwed



Fig. 193
Vertical, Screwed

$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
1.10	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	21.00

Fig. 194



McShane Patent Check Valve

Straight-Way Swing

Size	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price	1.20	1.25	1.30	1.75	2.25	3.25	4.25	6.25	11.50	16.00

REGRINDING CHECK VALVES

Medium Pattern
Screw Ends. For Working Pressures up to 200 Pounds
BRASS

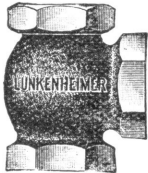


Fig. 195
Angle Check Valve

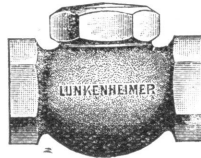


Fig. 196
Horizontal Check Valve



Fig. 197
Vertical Check Valve

		PRICE LIST												
Size	inches	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Check Valves, Brass, Horz'l, A'gl or Vert. Rough,	each	.50	.50	.60	.85	1.15	1.55	2.30	3.25	5.20	10.00	14.00	19.75	30.75
Check Valves, Brass, Horz'l, A'gl or Vert. Finis ed,	each	.75	.75	.90	1.30	1.75	2.40	3.50	5.00	7.80	12.50	17.50	25.00	37.00
Check Valves, Brass, Horizontal, Enlar- ged Seats,	each				1.15	1.55	2.30	3.25	5.20	10.00				
Check Valves, Brass, Horiz't'l, with Drain Cocks,	each		1.05	1.30	1.60	2.00	2.75	3.70	5.65	10.50	14.50			
Check Valves, Brass, Horz'l, Enl'gd Seats, with Cocks,	each		1.60	2.00	2.75	3.70	5.65	10.50						

Regrinding Swing Check Valves

BRASS

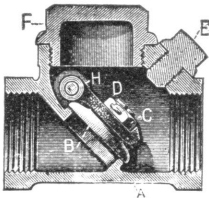


Fig. 198
Sectional View

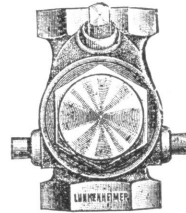


Fig. 199
Top View

These valves can be easily reground without being removed from the connecting pipes

PRICE LIST

Size	inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Brass, Screw ends,	each	1.25	1.25	1.30	1.75	2.25	3.25	4.25	6.25	11.50	16.00
Brass, Scr. & Flng. ends,	each		2.00	2.20	2.80	3.80	5.50	7.00	9.70	15.50	22.20
Brass, Flange ends,	each		2.60	2.90	3.60	4.90	7.20	9.20	12.30	18.50	26.80

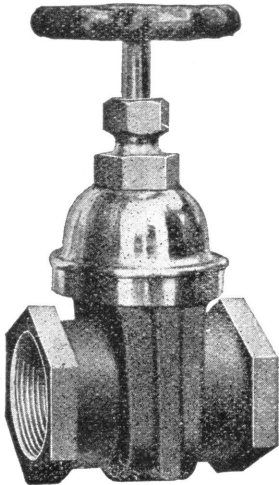


Fig. 200

WEBER

Patent Brass Straight-way Valves

Non-Rising Stem

Best Steam Metal.

Solid Wedge Disc.

Steam, Water and Gas Valves.

PRICE LIST

Diam. of Opening Inches	Face to Face Scr'd ends	Face to Face Flg'd ends	Diameter of Flange	Screwed	Flanged	Screw'd end Nickle plat'd Brass wheel
1/2	2 3/8	2 1 1/8	3	1 30	2 50	3 00
3/4	2 3/4	3	3	1 75	3 00	3 65
1	3 3/8	3 7/8	4	2 25	4 00	4 50
1 1/4	3 1 1/8	3 1 5/8	4 1/2	3 25	5 00	6 00
1 1/2	4 1/8	4 3/8	5	4 25	7 50	7 60
2	4 3/4	5 1 1/8	6	6 25	10 00	11 25
2 1/2	5 1 9/16	5 3/4	7	11 50	16 00	19 00
3	6 5/8	7	7	16 00	20 00	26 50
3 1/2	8 3/8	8 1/4	8 1/2	32 00	40 00	
4	8 1 1/4	8 7/8	9	40 00	48 00	

Every Valve Tested

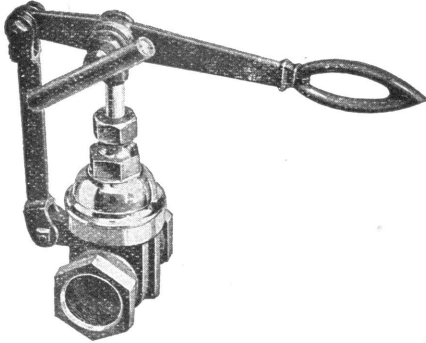


Fig. 201

WEBER

Straight-way Valves

Best Steam Metal. Solid Wedge Disc

Sliding Stem and Lever. Composition

Steam and Water Valves

PRICE LIST

Diam. of Opening. Ins	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Face to Face, scr. ends	2 3/8	2 3/4	3 3/8	3 11/16	4 1/8	4 3/4	5 1/16	6 5/8	8 3/8	8 11/16
“ “ “ flange “	2 1/8	3	3 7/8	3 11/8	4 3/8	5 1/8	5 3/4	7	8 1/4	8 7/8
Diameter of Flanges	3	3	4	4 1/2	5	6	7	7	8 1/2	9
Screw end	2.30	2.95	3.65	4.85	6.05	8.25	13.75	18.50	31.75	43.00
Flange end	3.50	4.20	5.40	6.60	9.30	12.00	18.25	22.50	42.75	51.00

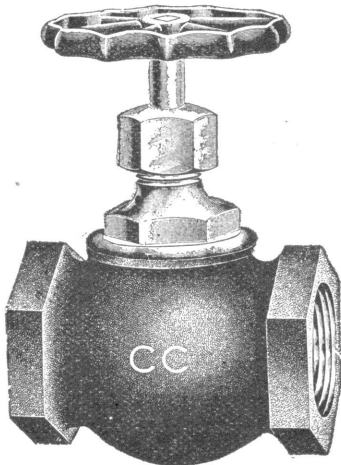


Fig. 202

Standard GLOBE and ANGLE VALVES

Iron Body
Brass Mounted

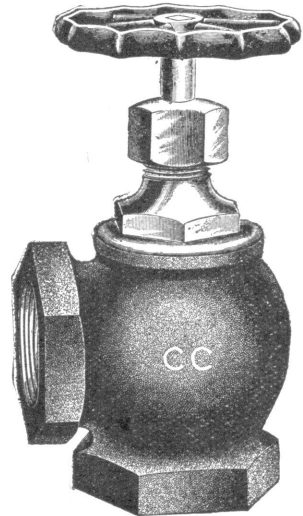


Fig. 203

Screwed

Size.....Inches	1	1 1/4	1 1/2	2	2 1/2	3
Price.....Each	2.25	2.75	3.50	5.40	7.35	9.80

Flanged

Size.....Inches	2	2 1/2	3
Price.....Each	7.00	9.00	12.50
Diameter of Flanges..... Inches	6	7	7 1/2

WRITE FOR DISCOUNTS

STANDARD GLOBE AND ANGLE VALVES

Iron Body with Yoke.

Brass Trimmings

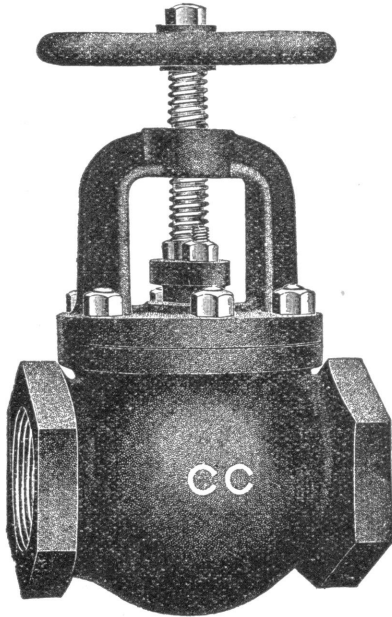


Fig. 204.

STANDARD GLOBE VALVE

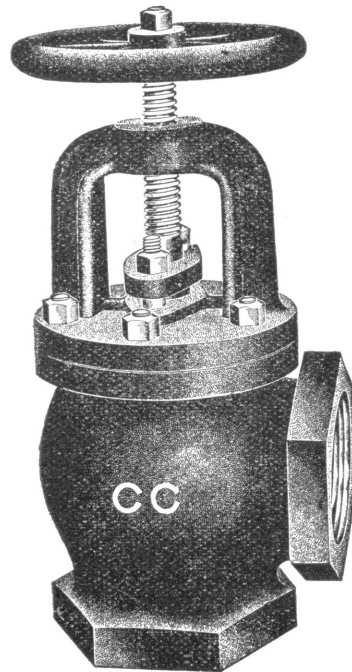


Fig. 205. STANDARD ANGLE VALVE

SCREWED

Size	Inches	2	2½	3	3½	4	4½
Price	Each	7.00	9.00	12.50	15.25	19.00	24.00
Size	Inches	5	6	7	8	10	12
Price	Each	27.00	37.50	63.00	72.00	114.00	170.00

FLANGED

Size	Inches	2	2½	3	3½	4	4½	5	6
Price	Each	8.60	10.75	15.00	18.50	22.50	27.50	31.00	42.00
Diam. of Flanges ..	Inches	6	7	7½	8½	9	9¼	10	11
Center to Inlet or Outlet ...	Inches	4	4¼	4¾	5¼	5½	6	6½	7
Size	Inches	7	8	10	12	14	15	16	
Price	Each	68.00	77.00	123.00	187.00	350.00	425.00	475.00	
Diam. of Flanges ..	Inches	12½	13½	16	19	21	22¼	23½	
Center to Inlet or Outlet ...	Inches	8	8½	10	12	14	15	16	

WRITE FOR DISCOUNTS

**Jenkins Bros.
Globe and Angle Valves
with Brass Hub**

Iron Body, Composition Mounted

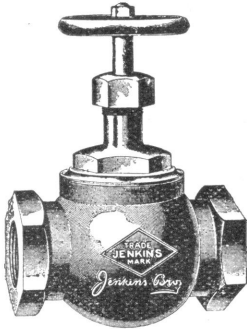
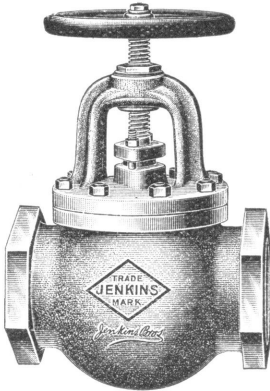


Fig 206
Screwed

Size	Screwed	Flanged
1/2	2 80	3 80
3/4	2 80	3 80
1	3 00	4 40
1 1/4	4 00	5 40
1 1/2	5 00	6 60
2	7 25	8 50
2 1/2	11 00	13 00
3	16 00	18 00

Globe Pattern, Screwed
Fig. 207



**Jenkin Bros. Globe and Angle
Valves, with Yoke**

STANDARD PATTERN

Iron Body, Composition Mounted

Size	Screwed	Flanged
2	10 00	11 75
2 1/2	12 00	14 00
3	16 75	18 50
3 1/2	19 50	21 50
4	24 00	26 00
4 1/2	32 00	34 00
5	40 00	42 00
6	48 00	50 00
7	80 00	80 00
8	90 00	90 00
9	121 00	121 00
10	130 00	130 00
12	185 00	185 00
14		334 00
16		400 00
18		540 00
20		620 00
24		1260 00

Angle Pattern, Flanged
Fig. 208



WRITE FOR DISCOUNTS

LUNKENHEIMER

Angle Blow-off Valves

For Working Pressures up to 125 Pounds

Iron Body, Brass Mounted

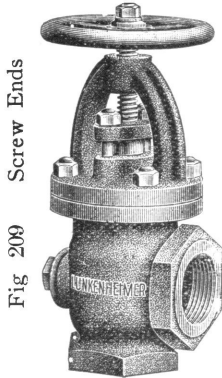


Fig. 209
Screw Ends

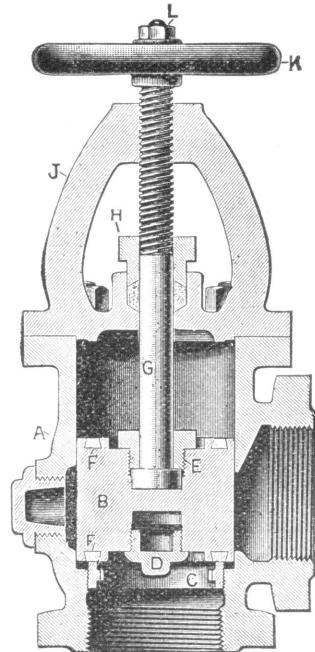


Fig. 210

The Lunkenheim Iron Body Angle Blow-off Valves shown above are of heavy pattern and are well made in every particular. All parts are made of iron excepting the stem, disc plug, seat ring, lock-nut and cleaning plug, which are made of bronze, while the reversible bearing faces in the iron discs are filled with Babbitt metal. These valves supply the demand for a lower priced blow-off valve, and while not possessing all the advantages of construction, they are thoroughly reliable.

The operation of this valve is such that when the disc approaches the seat, it first comes in contact with a shearing edge in the body directly above the seat, and it will readily be seen that as the disc is about to touch this edge, the water will necessarily rush past the seat in a fine stream, practically free from foreign matter and any scale or sediment from the boiler that may have accumulated on the seat will be effectually washed away.

PRICE LIST

Size	inches	1½	2	2½	3
Screw Ends	each	10.00	13.50	18.20	27.50
Screw and Flange Ends	"	10.80	14.40	19.20	28.60
Flange Ends	"	11.20	15.00	20.00	30.00

WRITE FOR DISCOUNTS

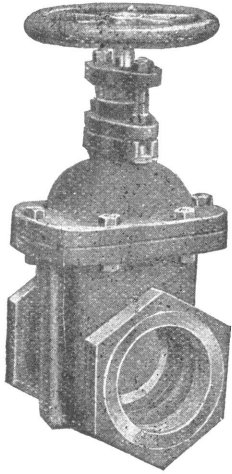


Fig. 211 Screwed

WEBER

**Iron Body Straight-way
Steam & Water Valves.**

- Bolted Flanged Tops
- Bolted Iron Stuffing Glands
- Composition Spindles
- Bronze Rings and Seats
- Every Valve Tested

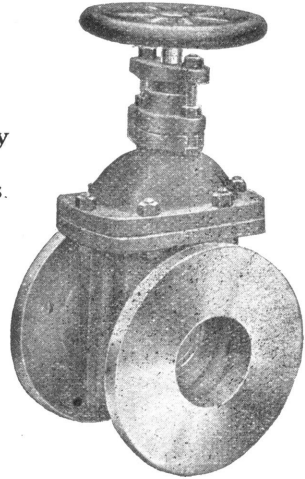


Fig. 212 Flanged

PRICE LIST

Size	inches	2	2½	3	3½	4	4½	5
Scr'd. or Fl'ng'd Ends	price	10.00	12.00	15.00	18.00	20.00	23.00	25.00
Size	inches	6	7	8	9	10	12	
Scr'd. or Fl'ng'd Ends	price	30.00	45.00	55.00	80.00	90.00	125.00	

We furnish these valves with brass stuffing nuts when specified only.
Made of all iron, with steel spindles for acids, gas and cyanides.

Iron Body Globe & Angle J.M.T. Ammonia Valves

All Iron.

Screwed & Flanged

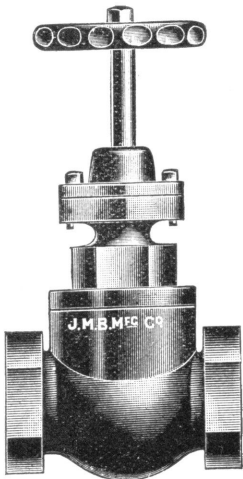


Fig. 213 Screwed

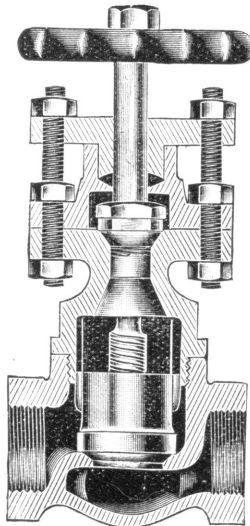


Fig. 214 Section

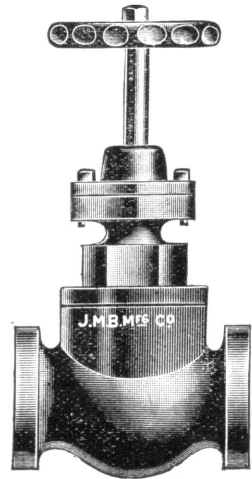


Fig. 215 Flanged

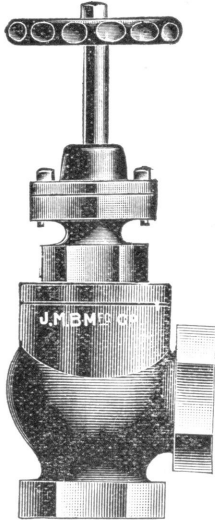


Fig. 216 Screwed

**J. M. T.
Ammonia Angle
Valves**

ALL IRON

SCREWED AND FLANGED

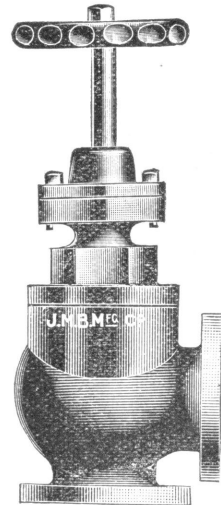


Fig. 217 Flanged

Size	inches	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Screwed	price each	4.00	5.00	6.00	7.25	8.00	9.00	12.50	18.00	22.50
Flanged	"				8.50	9.65	10.95	14.90	20.50	26.55

The attention of users of Ammonia Valves is called to the greatly improved construction of the J. M. T. Ammonia Valve. The special feature of this Valve is the Metallic Packing, as illustrated in the sectional cut. We can recommend these Valves with the greatest confidence as being superior to any style of Ammonia Valve in the market.

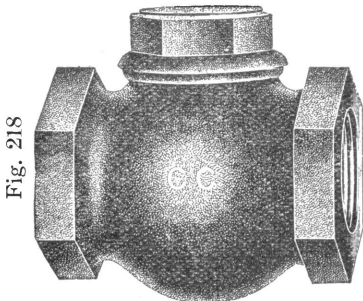


Fig. 218

**STANDARD
HORIZONTAL CHECK
VALVES**

Iron Body

Brass Trimmings

SCREWED

Size.....	Inches	2	2 1/2	3	3 1/2	4	4 1/2
Price.....	Each	3.60	6.50	8.90	12.25	14.25	19.00
Size.....	Inches	5	6				
Price.....	Each	22.00	30.00				

WRITE FOR DISCOUNTS

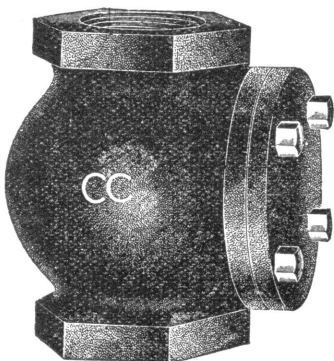
Standard Horizontal Check Valves, Iron body = cont.

FLANGED

Size.....Inches			3	4	5		
Price.....Each			11.50	18.00	26.00		
Diameter of Flanges.....Inches			7½	9	10		
Face to Face.....Inches			9½	11	13		
Size.....Inches	6	7	8	10	12	14	15
Price.....Each	35.00	50.00	62.00	115.00	175.00	300.00	375.00
Diameter of Flanges .....Inches	11	12½	13½	16	19	21	22¼
Face to Face.....Inches	14	16	17	20	24	28	30

The 2 to 3 inch have brass caps; other sizes, iron caps.

Fig. 219 Screwed



**STANDARD
Vertical Check Valves**

Iron Body

Brass Trimmings

SCREWED

Size	Inches	2½	3	3½	4	4½	5	6
Price	Each	9 50	12 50	17 00	21 00	30 00	33 00	40 00

FLANGED

Size	Inches	2½	3	3½	4	4½
Price.....	Each	11.50	15.00	20.00	25.00	33.50
Diameter of Flanges.....	Inches	7	7½	8½	9	9½
Face to Face.....	Inches	8½	9½	10½	11	12
Size	Inches	5	6	7	8	10
Price.....	Each	37.00	45.00	67.00	78.00	135.00
Diameter of Flanges.....	Inches	10	11	12½	13½	16
Face to Face.....	Inches	13	14	16	17	20

WRITE FOR DISCOUNTS



Fig. 220
Horizontal, Screwed

**Jenkins Bros.
Iron Body Check
Valves**

**Standard Pattern
Horizontal, Angle and
Vertical**

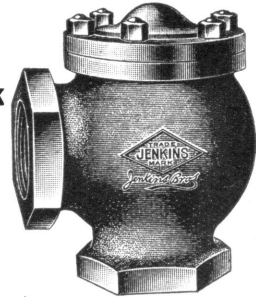


Fig. 221
Angle, Screwed

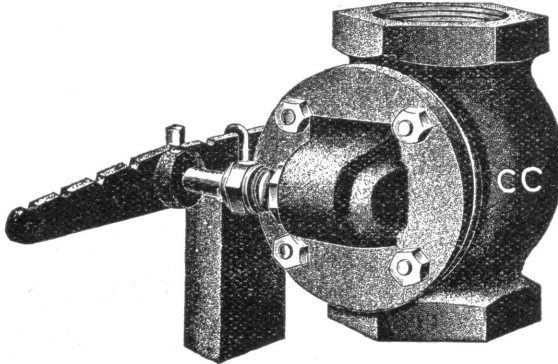
Horizontal, Angle or Vertical, Screwed

2	2½	3	3½	4	4½	5	6	7	8
8.00	11.00	14.00	17.00	20.00	25.00	30.00	40.00	65.00	80.00

Horizontal, Angle or Vertical, Flanged

2	2½	3	3½	4	4½	5	6	7	8
10.00	13.00	16.50	20.00	23.00	28.00	33.00	43.00	65.00	80.00

Fig. 222



**STANDARD
Back Pressure
Valves**

IRON BODY

Brass Trimmings

SCREWED

Size	Inches	2	2½	3	3½	4	4½
Price	Each	11.00	13.00	15.00	19.00	22.50	28.50

Size	Inches	5	6	7	8	10	12
Price	Each	33.50	43.00	70.00	85.00	120.00	180.00

FLANGED

Size	Inches	6	7	8	10	12
Price	Each	47.00	75.00	90.00	130.00	200.00
Diameter of Flanges	Inches	11	12½	13½	16	19
Face to Face	Inches	14	16	17	20	24

They are weighted for 5 pounds back pressure.

Noiseless Balanced Back Pressure Valves

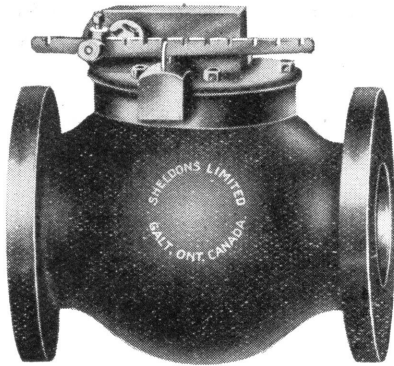


Fig. 223

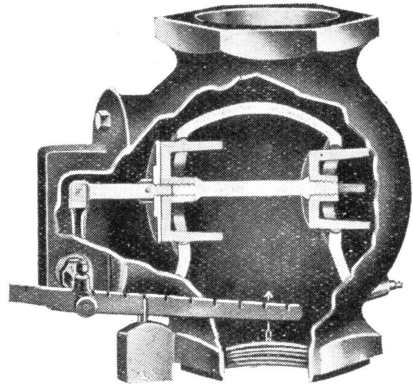
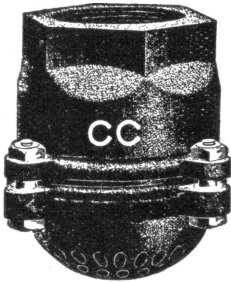


Fig. 224

PRICE LIST

Size, Inches	2	2½	3	3½	4	4½	5	6	7	8	9	10	12	14	15	16	18	20	22	24
Price, each	\$14	16	18	22	25	30	40	60	80	100	120	145	220	345	400	465	600	750	900	1050
Diameter of Flanges Standard	6	7	7½	8½	9	9½	10	11	12½	13½	15	16	19	21	22½	23½	25	27½	29½	32
Approximate Weight	25	30	50	60	75	90	110	160	200	240	350	395	525	750	850	1000	1500	2000	2500	3200

Fig. 225
Style, Sizes ¾ inch to 6 inch



STANDARD FOOT VALVES With Strainer

SCREWED

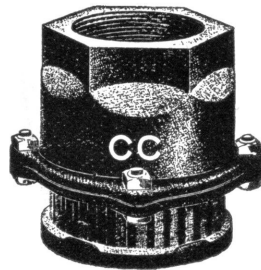


Fig. 226
Style, Sizes 7 inch to 16 inch

Size Inches	¾	1	1¼	1½	2	2½	3	3½
Price Each	1.15	1.30	1.40	1.90	2.40	3.30	3.90	5.60
Price, Galvanized. Each	1.75	2.00	2.10	2.85	3.60	5.00	5.75	8.50
Size Inches	4	4½	5	6	7	8	10	12
Price Each	7.30	10.50	11.25	14.75	35.00	41.00	64.00	100.00
Price, Galvanized. Each	11.00	15.75	16.75	22.00				

WRITE FOR DISCOUNTS

STANDARD FOOT VALVES -- cont.
FLANGED

Size.....Inches	2	2½	3	3½	4	4½	5	6
Price.....Each	3.50	4.50	5.75	7.50	9.50	13.00	14.00	17.50
Diameter of Flanges.....Inches	6	7	7½	8½	9	9½	10	11
Size.....Inches	7	8	10	12	14	15	16	
Price.....Each	38.00	45.00	70.00	112.00	150.00	175.00	200.00	
Diameter of Flanges.....Inches	12½	13½	16	19	21	22½	23½	

These Valves as constructed insure free openings.

THROTTLE VALVE

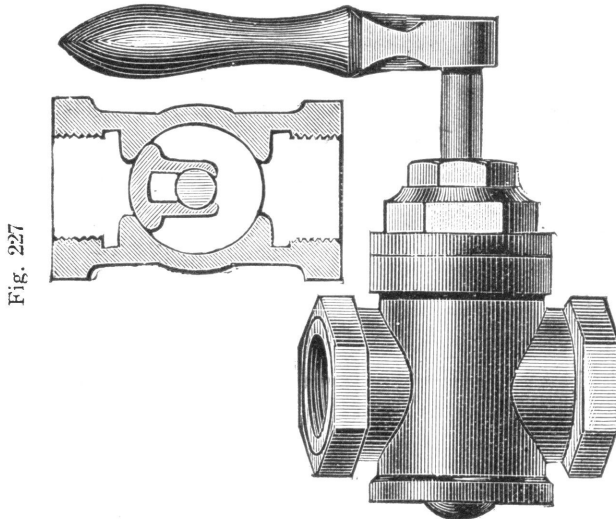
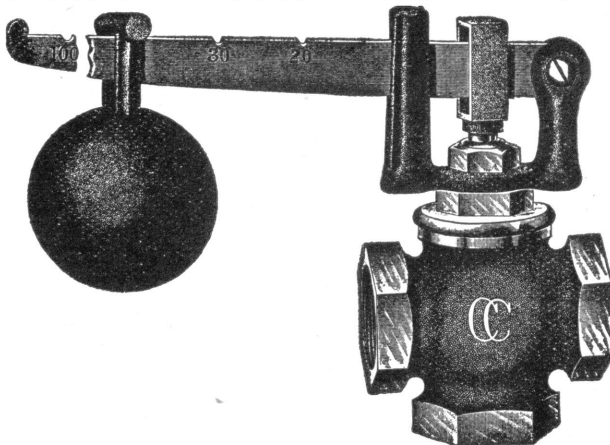


Fig. 227

Size inches	½	¾	1	1¼	1½	2	2½
Screwed	8.75	10.00	11.50	14.00	20.00	25.00	35.00
Flanged			16.65	19.95	27.00	35.70	48.00



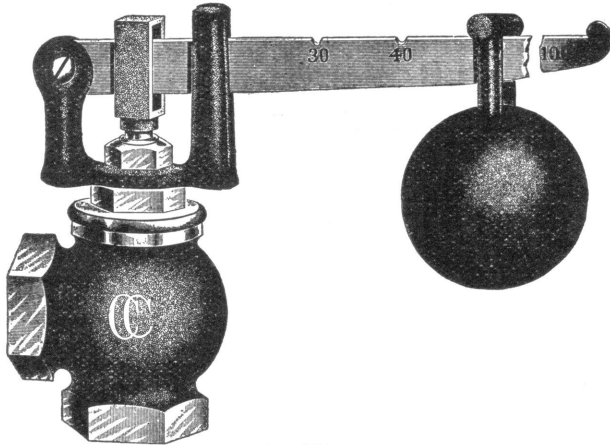
Standard
Safety Valves
Brass

Fig. 228

STANDARD SAFETY VALVES, Brass - cont.

Size.....Inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1
Price.....Each	2.20	2.50	3.25	3.90	4.70
Size.....Inches	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Price.....Each	7.15	9.00	12.50	22.50	33.50

Sizes $1\frac{1}{4}$ inch and larger will be sent in iron unless otherwise ordered.

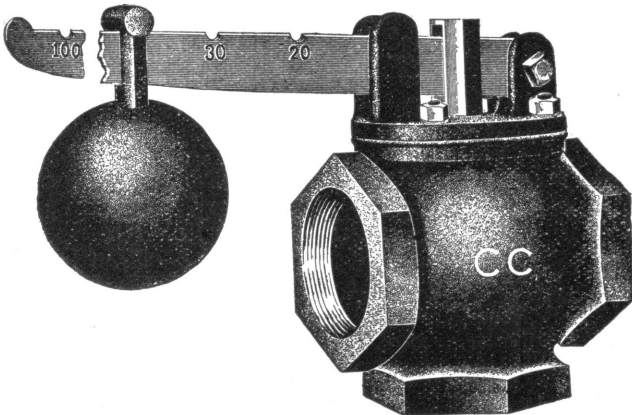


**Standard
Angle Safety
Valves
Brass**

Fig. 229

Size.....Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Price.....Each	3.25	3.90	4.70	7.15
Size.....Inches	$1\frac{1}{2}$	2		
Price.....Each	9.00	12.50		

Sizes $1\frac{1}{4}$ inch and larger will be sent in iron unless otherwise ordered.



**STANDARD
SAFETY
VALVES
Iron Body
Brass
Trimmings**

Fig. 230

WRITE FOR DISCOUNTS

STANDARD SAFETY VALVES, Iron Body -- cont.

SCREWED

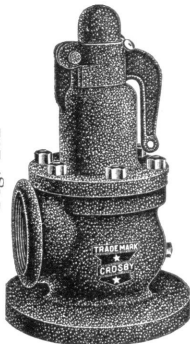
SizeInches	1¼	1½	2	2½	3	3½
PriceEach	5.00	5.80	7.80	13.25	17.25	23.00
SizeInches	4	4½	5	6	7	8
PriceEach	28.75	34.50	41.50	57.75	93.50	132.00

FLANGED

SizeInches	4	5	6	7	8
PriceEach	34.00	48.00	65.00	100.00	140.00
Diameter of FlangesInches	9	10	11	12½	13½
Face to Face of FlangesInches	11	13	14	16	17
Center to InletInches	5½	6½	7	8	8½

1¼ to 2 inch have brass caps; other sizes have iron caps

Fig. 231



CROSBY
Standard Pop Safety
VALVE

For Stationary and Marine
Boilers
PATENTED

STEEL SPRINGS
For Safety Valves



Fig. 232

Prices on application

One of the advantages which this design of safety valve has is the convenience which it affords for the removal of its top to inspect or repair it when it is attached to the boiler for use, without detaching the outlet pipe.

PRICES

Size Inches	Style of Base	Diam. of side outlet Screwed	Height of Valves	Capacity Horse Power	Regular	
					Plain	Lock-up
2	Screwed	2 inches	12¼ in	25 to 40	\$ 30	Nickel Seats Extra
2½	Scr'd or 9 in flg.	2½ "	13 "	40 " 75	50	
3	" " 9 " "	3 "	14 "	75 " 100	65	
3½	" " 10 " "	3½ "	16½ "	100 " 125	80	
4	" " 11 " "	4 "	18½ "	125 " 150	100	
4½	" " 11 " "	9½ " Flg.	22½ "	150 " 175	125	
5	" " 12 " "	9½ " "	25½ "	175 " 200	160	
5½	" " 12 " "	10 " "	25½ "	200 and upwards	220	
6	" " 14 " "	10 " "	27 "		250	

In ordering, state pressure to be carried. If flange is desired state diameter

WRITE FOR DISCOUNTS

Fig. 233



Without Hood

**McAvity's Patent
Brass Pop
Safety Valves**

Fig. 234



With Hood and Lock

Size		1	1¼	1½	2	2½	3
For Boilers	H.P.	below 10	10 to 20	20 to 30	30 to 40	40 to 50	
Fig. 232	Each	12.00	15.00	20.00	30.00	50.00	65.00
" 233	"	14.25	17.50	22.75	33.00	54.00	70.00

We can supply Fig. 244 Valve with female thread inside top of Valve, so pipe can be connected to carry off the steam.

**MARINE LOCK-UP "POP" SAFETY VALVES
IRON BODY**

(Adopted by the Board of Steamboat Inspectors.)

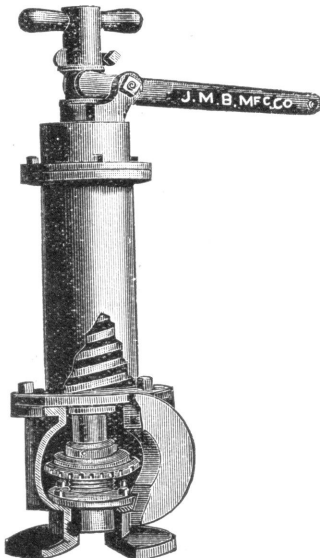


FIG. 235

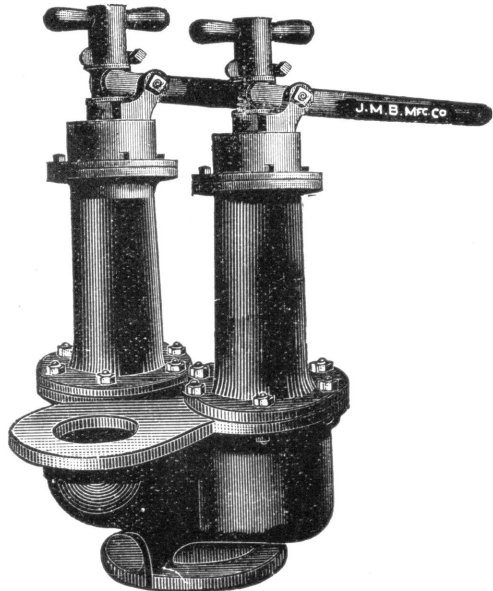


FIG. 236

Price List of Marine Lock-up "Pop" Safety Valves

SINGLE VALVES

Size, Inches	1	1¼	1½	2	2½	3	3½	4	4½
Diameter of Inlet flange, inches	5	5	6	7	8	9	9¾	11½	12
Diameter of Outlet flange, "Screwed						7¾	8	9	9½
150 lbs. pressure and under, each	15.00	18.75	22.50	30.00	37.50	45.00	52.50	60.00	67.50
150 lbs. to 200 lbs. pressure, "	18.00	22.50	27.00	36.00	45.00	54.00	63.00	72.00	81.00
200 lbs. to 300 lbs. pressure, "	22.50	28.13	33.75	45.00	56.25	67.50			

TWIN VALVES

Size, Inches	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3½	4	4½
Diam. of Inlet flange, Ins.	6	6¾	7	8½	8½	10	10	10¾	10¾	12	13	14
Diam. of Outlet flange "	4¼	5	5½	6½	6½	7½	7½	9	9	10	10½	11
150 lbs. pres. & under, ea.	30.00	37.50	45.00	60.00	60.00	75.00	75.00	90.00	90.00	105.00	120.00	135.00
150 lbs. to 200 lbs. pres. "	36.00	45.00	54.00	72.00	72.00	94.50	94.50	113.50	113.50	132.50	158.50	
200 lbs. to 300 lbs. pres. "	45.00	56.25	67.50	90.00	90.00	112.50	112.50	135.00	135.00			

These Marine Safety Valves are tested and set to working pressure on our high-pressure boiler by actual steam, and they are guaranteed to open and close within a range of three pounds over or under the given boiler pressure.

WRITE FOR DISCOUNTS

Daniel's Graded Valve Grinders

Fig. 237

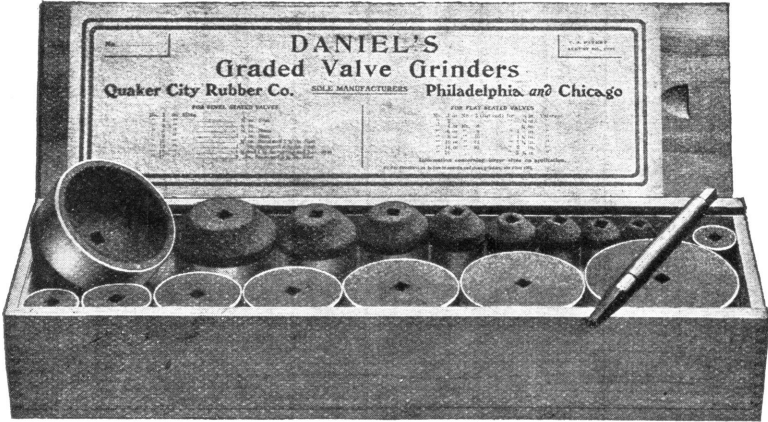
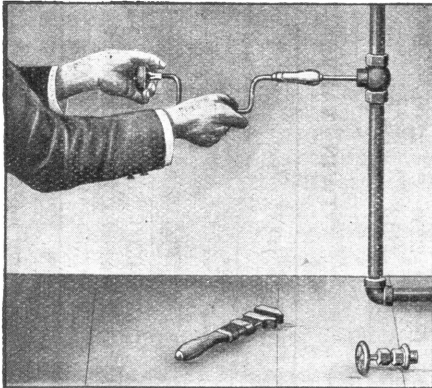


Fig. 237a



Every Engineer should
have a Set !

Regular Set fits Valves from
 $\frac{1}{2}$ to 2 inch, both flat and
bevelled seats. Larger sizes
can be ordered separately.

Make Old Leaky Valves better
than New

PRICE \$24.00

Monash Standard Steam Pressure Reducing Valves

FIG. 238
Monash CLASS A-1

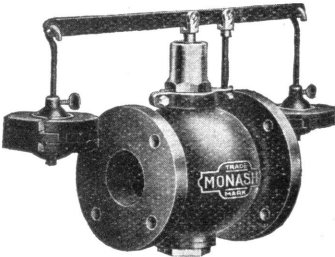
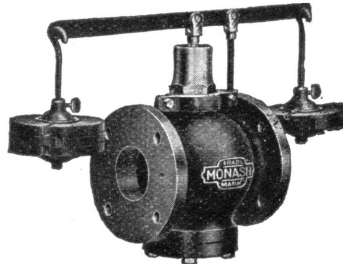


FIG. 239
Monash CLASS A-2



Designed for reducing steam or air pressure from the initial or high pressure carried, which may be as high as 125 lbs. per square inch down to any pressure on the reduced side as low as atmosphere.

**MONASH STANDARD
STEAM PRESSURE REDUCING VALVES -- cont.**

Class A-1

Size of Inlet & Outlet, Ins.	¾x1	1x1¼	1¼x1½	1½x2	2x2½	2½x3	3x3½
List Price	38.00	40.00	44.00	46.00	54.00	63.00	72.00
Size of Inlet & Outlet, Ins.	3½x4	4x5	5x6	6x7	7x8	8x10	10x12
List Price	87.00	105.00	135.00	180.00	250.00	340.00	450.00

Class A-2

Size of Inlet & Outlet, Ins.	¾x1¾	1x1	1¼x1¼	1½x1½	2x2	2½x2½	3x3
List Price	38.00	40.00	44.00	46.00	54.00	63.00	72.00
Size of Inlet & Outlet, Ins.	3½x3½	4x4	5x5	6x6	7x7	8x8	10x10
List Price	87.00	105.00	135.00	180.00	250.00	340.00	450.00

FIG. 240 Monash CLASS C-1
Vacuum
Pressure Reducing Valve

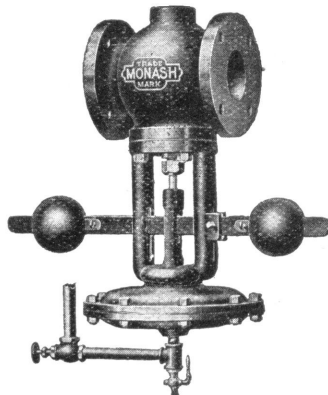
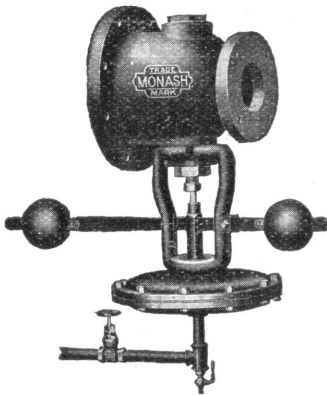


FIG. 241. Monash CLASS C-2
Vacuum
Pressure Reducing Valve

Will reduce steam pressure on vacuum heating systems from 125 lbs. per square inch down to atmospheric pressure or below if desired, but cannot be used where the reduced pressure required is above 10 lbs.

Class C-1

Size of Inlet & Outlet, Ins.	1½x3	2x4	2½x5	3x6	3½x7	4x8	5x10	6x12
List Price	94.00	110.00	130.00	185.00	230.00	275.00	375.00	500.00

Class C-2

Size of Inlet & Outlet, Ins.	¾x¾	1x1	1¼x1¼	1½x1½	2x2	2½x2½	3x3
List Price	43.00	45.00	50.00	60.00	75.00	90.00	115.00
Size of Inlet & Outlet, Ins.	3½x3½	4x4	5x5	6x6	7x7	8x8	10x10
List Price	140.00	165.00	225.00	300.00	375.00	450.00	580.00

WRITE FOR DISCOUNTS

Class B Exhaust Relief Valves For Condensing Engines

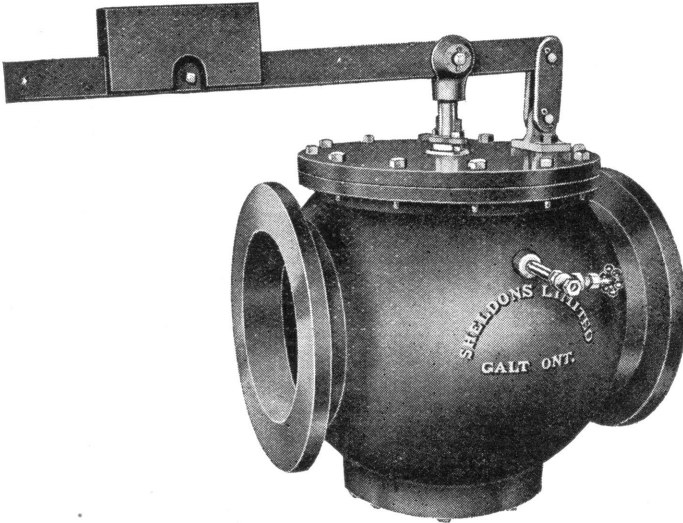


Fig- 242
Horizontal Pattern

The Sheldon Class B Back Pressure Valve For Condensing & Non-Condensing Plants

Owing to the economy in operating a steam plant condensing, a great many plants are being turned into condensing and nearly all new plants are being installed condensing. On condensing plants it is necessary to have a complete vacuum which can only be realized by using a single seated water sealed valve, while with a non-condensing plant a two seated balanced valve is desirable, similar to Class A.

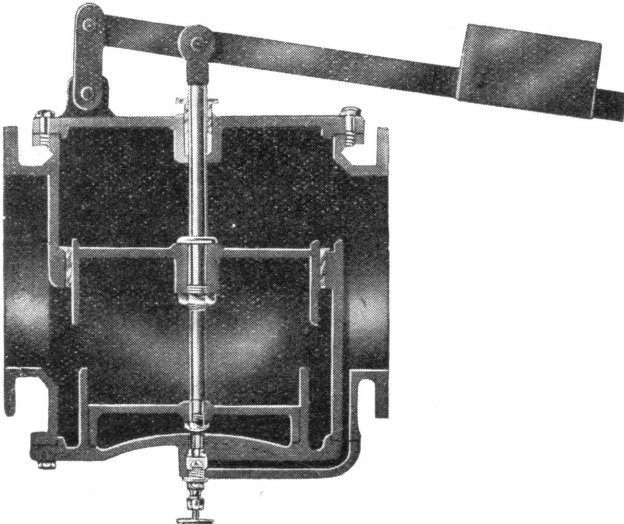


Fig. 243
Section of Horizontal Pattern

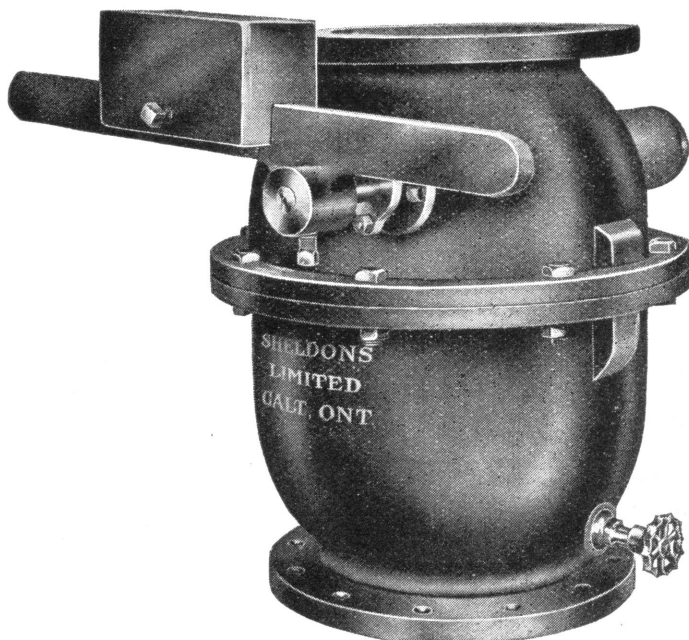
CLASS B EXHAUST RELIEF VALVES -- cont.

Fig. 244

Vertical Pattern

Our Class B Valve can be used for non-condensing plant, or, by closing the controlling valve, it can be converted into a single seated valve for a condensing plant, the lower valve then acting as a dash pot. For condensing plants, these valves are usually installed in a branch leading from the main exhaust pipe. When the engine is started and a vacuum obtained in the condenser, the atmospheric pressure on top of the seat closes the valve and keeps it closed as long as a vacuum is maintained, but if the air pump fails, the injection water stops or for any other reason the vacuum is lost, the exhaust pressure becomes greater than the atmospheric and causes the valve to open immediately, allowing the engine to exhaust to the atmosphere, thereby preventing any damage to the pump, condenser or engine, and also does away with the necessity of stopping the engine.

All Class B Valves have full pipe opening and allow the steam to exhaust through them freely without choking. They are made in both vertical and horizontal patterns, both styles being furnished with dash pots. The dash pots allow the valves to open and close noiselessly and prevent the discs from hammering and injuring the seats. The valve seats are made from a bronze ring and the discs are faced with a special babbitt metal, which construction enables them to hold tight under high vacuum and not to adhere to each other when pressure comes on the valve. Provisions is made in both vertical and horizontal valves for permanently holding them wide open when necessary.

All sizes have standard flanged ends only. All valve flanges will be drilled to template without extra charge.

Price List Class B Back Pressure Valves

SIZE VALVE	PRICE	SIZE VALVE	PRICE
4 inch	40 00	16 inch	465 00
5 "	55 00	18 "	600 00
6 "	75 00	20 "	750 00
7 "	100 00	22 "	920 00
8 "	130 00	24 "	1170 00
9 "	200 00	26 "	1420 00
10 "	200 00	28 "	1600 00
12 "	275 00	30 "	2000 00
14 "	345 00	36 "	3000 00

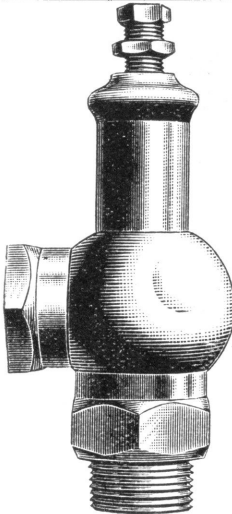
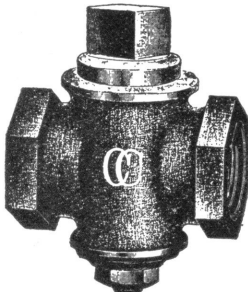


FIG. 245

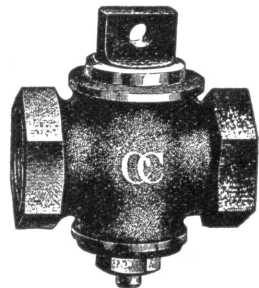
Relief Valves for Cylinders

Size, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Scr'd Inlet to 100 lbs	3.75	5.63	7.50	9.38	11.25	15.00	37.50	45.00
Flg'd " "				12.38	14.75	20.35	44.00	55.30
Scr'd " over "	4.50	6.75	9.00	11.25	13.50	18.00	41.25	49.50
Flg'd " "				14.25	17.00	23.35	47.75	59.80



Square Head
Fig 246

**Standard
STEAM COCKS
Brass**



Flat Head
Fig. 247

Size.....Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Nos. 259 and 260.....Each	.85	1.00	1.25	1.70	2.35	3.70	4.85
No. 259a Sq. Hd. with Check,Each			1.40	1.90	2.55	3.95	5.15
Size.....Inches	2	2 1/2	3	3 1/2*	4*		
Nos. 259 and 260 Each	7.30	14.50	22.50	38.50	50.00		

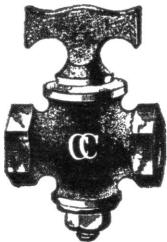


Fig. 248

Tee Handle

Size.....Inches	1/8	1/4	3/8	1/2	3/4	1
No. 261.....Each	.85	.85	1.00	1.25	1.70	2.35
No. 261a with Check... Each		1.00	1.15	1.40	1.90	2.55

Square Head, 1/2 inch to 4 inch, and Tee Handle, 1/8 inch to 3/8 inch, will always be furnished unless otherwise ordered.

*NOTE—The 3 1/2 and 4 inch Steam Cocks are made only to order at a special discount.

Three Way Steam Cocks

Brass with Check

With Extra Large Plug and Full Openings

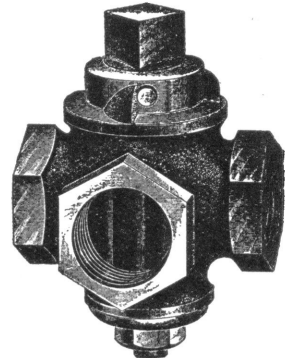


Fig. 249

SQUARE HEAD

Size.....Inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Price.....Each	1.80	2.10	2.50	3.00	3.75	5.75	7.15	11.00	18.75	26.00

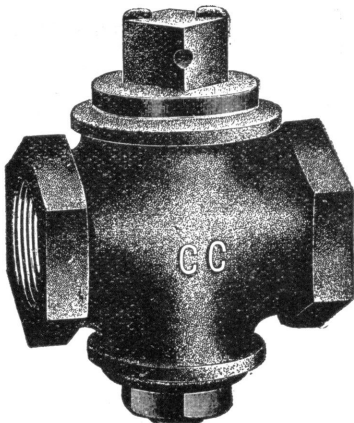


Fig. 250

**STANDARD
IRON COCKS**

SCREWED

See Price List next Page

WRITE FOR DISCOUNTS

STANDARD IRON COCKS -- cont.

All Iron Cocks

Size	Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Price.....	Each	90	1.05	1.30	1.60	1.95	2.70	4.40

Size	Inches	3	3 $\frac{1}{2}$	4	5	6	8
Price....	Each	6.75	12.00	15.50	32.00	45.00	100.00

IRON COCKS WITH BRASS WASHER

Size	Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Price.....	Each	1.00	1.20	1.55	1.95	2.35	3.20	5.15

Size ..	Inches	3	3 $\frac{1}{2}$	4	5	6	8
Price.....	Each	7.75	14.00	19.00	38.00	53.00	110.00

IRON COCKS WITH BRASS PLUG

Size .. Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4	5	6	8
Price .. Each	1.30	1.60	1.90	2.65	3.75	5.25	8.75	13.00	27.50	36.50	67.00	94.00	200.00

Flat Head, $\frac{1}{2}$ inch to 2 inch, and Square Head, 2 $\frac{1}{2}$ inch to 8 inch, will always be furnished, unless otherwise ordered

STANDARD
IRON THREE WAY
COCKS
SCREWED

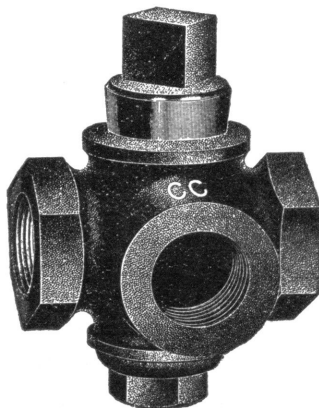


Fig. 251

ALL IRON THREE WAY COCKS

Size	Inches	$\frac{3}{4}$	1	1 $\frac{1}{4}$	1 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Price.....	Each	1.65	1.80	2.05	2.65	3.65	5.35

Size	Inches	3	3 $\frac{1}{2}$	4	5	6
Price.....	Each	7.50	14.00	19.00	36.50	52.00

WRITE FOR DISCOUNTS

STANDARD IRON THREE WAY COCKS - cont.

IRON THREE WAY COCKS WITH BRASS WASHER

Size	Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price.....	Each	1.80	2.05	2.40	3.05	4.15	6.10
Size	Inches	3	$3\frac{1}{2}$	4	5	6	
Price.....	Each	8.50	16.00	22.50	42.50	60.00	

IRON THREE WAY COCKS WITH BRASS 'PLUG

Size	Inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Price.....	Each	2.20	2.40	3.10	4.50	6.25	9.75
Size	Inches	3	$3\frac{1}{2}$	4	5	6	
Price.....	Each	13.75	30.00	40.00	71.50	100.00	

BRASS STEAM COCKS

Asbestos Packed

Best Steam Metal.

Screwed and Flanged

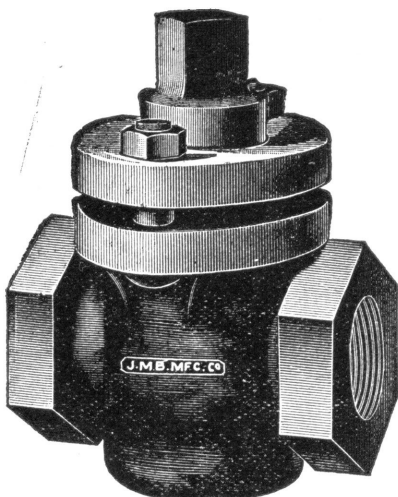


Fig. 252. Screwed

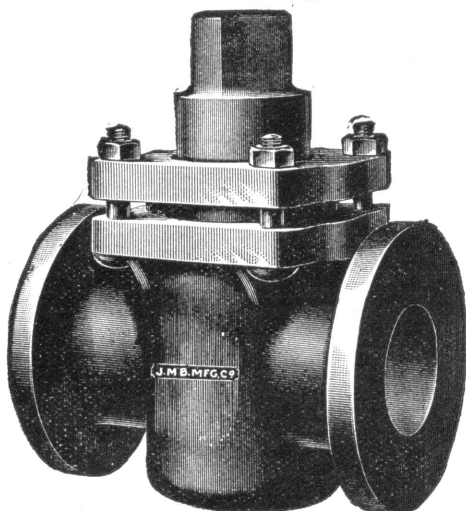


Fig. 253. Flanged

Size,	Inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Screwed	price each	3.35	3.35	4.20	5.60	8.00	10.35	16.00	26.50	37.50
Flanged	"				10.50	12.50	14.50	26.00	38.00	49.00

EXTRA HEAVY BRASS STEAM COCKS

Asbestos Packed

Size,	Inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
XXH, Screwed	each	3.75	3.75	4.75	6.30	9.00	11.60	18.00	30.00	42.00
XXH, Flanged	"				12.00	15.00	17.00	29.00	42.00	60.00
Diam. of Flanges,	ins.				4	$4\frac{1}{2}$	5	6	7	$7\frac{1}{2}$

IRON COCKS. Asbestos Packed

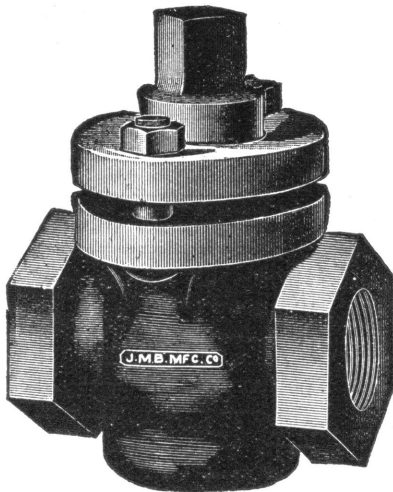


Fig. 254. Screwed

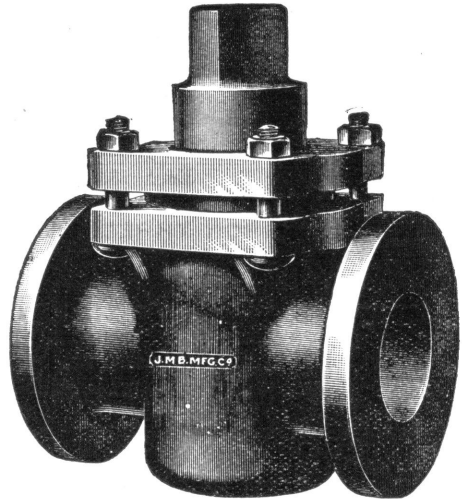
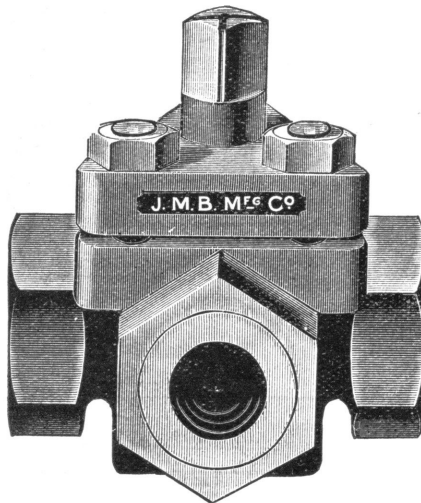


Fig. 255. Flanged

Size, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6
Screwed price each	1.60	2.10	2.50	3.50	4.75	7.00	12.00	18.00	27.00	30.00	45.00	60.00
Flanged "			2.50	3.50	4.75	7.00	12.00	18.00	27.00	30.00	45.00	60.00
Diam. of Flanges, Ins.			4	4 1/2	5	6	7	7 1/2	8 1/2	9	10	11

Fig. 256. Screwed



THREE WAY IRON

COCKS.

Asbestos Packed

Size, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Screwed price each	2.85	4.75	7.00	12.00	18.00	30.00	45.00	60.00
Flanged "	2.85	4.75	7.00	12.00	18.00	30.00	45.00	60.00
Diam. of Flanges, Ins.			4	4 1/2	5	6	7	7 1/2

MARINE STOP COCKS

BRASS

For STEAM and WATER

Flanged Top with Stuffing Gland and Solid Bottom
Screwed Ends, Screwed and Flanged, and Flanged

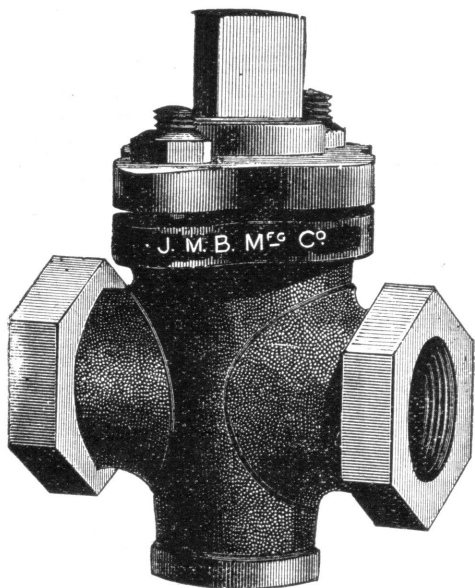


Fig. 257. Screwed

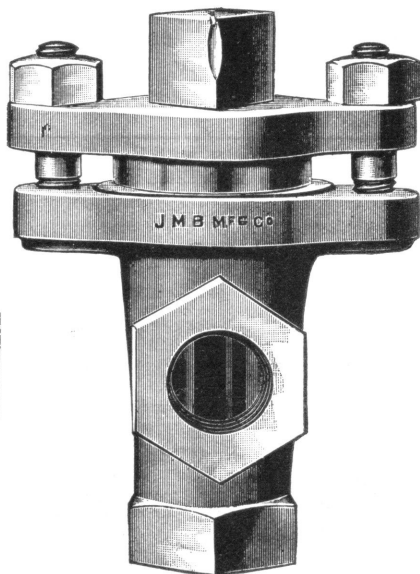


Fig. 258. Screwed

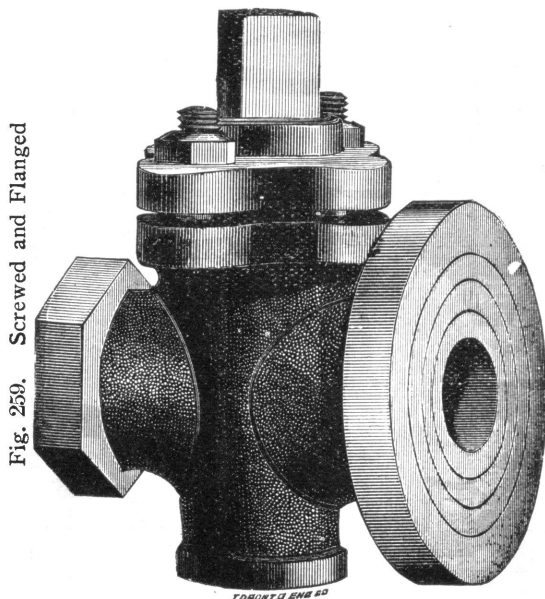


Fig. 259. Screwed and Flanged

MARINE STOP COCKS -- cont.

Size, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Length, End to End, Scr'd ends, Ins.	3 1/2	4	5	5 1/2	6 1/4	8 1/4		
" Face to Face, Flg'd " "		4	5	5 1/2	6 1/4	8 1/4		
Diameter of Flanges, Inches		4	4 1/2	5	6	7	7 1/2	
Screwed price each		3.50	5.50	8.50	11.25	18.75	27.00	47.00
" Angle Pattern "		3.50	5.50	8.50	11.25	18.75	27.00	47.00
" and Flanged "		7.75	11.00	15.50	24.50	32.50	56.00	
Flanged "		10.00	13.50	19.75	30.25	38.00	65.00	

Marine Cocks with Flanges of larger Diameter than the above, and Bolts on on Bottom to raise Plug, will be charged extra.

AIR COCKS

Tee Handle or Lever Handle

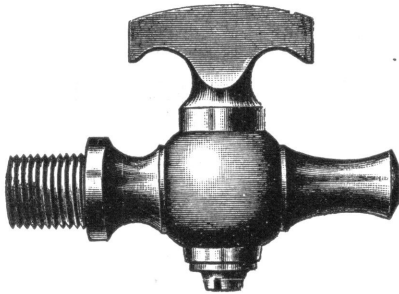


Fig. 260

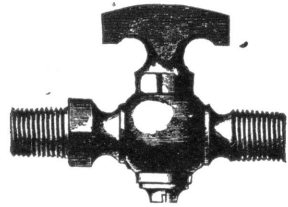


Fig. 261

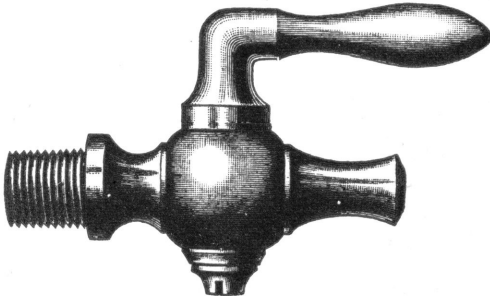


Fig. 262.

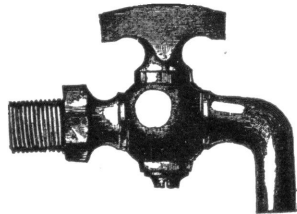


Fig. 263.

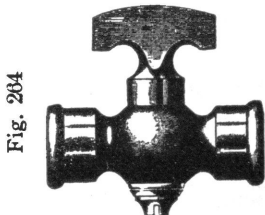


Fig. 264

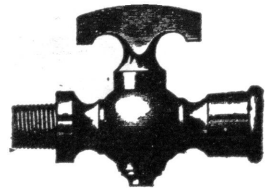


Fig. 265

AIR COCKS -- Cont.

Price List Fig. 260

*T.H. No.	6	7	8	9
Size	1/8	1/4	3/8	1/2 in.
Price	.40	.45	.50	.60

Price List Fig. 261

†L.H. No.	12	13	14	15
Size	1/8	1/4	3/8	1/2 in.
Price	.55	.60	.65	.75

Price List Fig. 262

*T.H. No.	18	19	20	21
Size	1/8	1/4	3/8	1/2 in.
Price	.55	.65	.75	.90

Price List Fig. 263

*T.H. No.	26	27	28	33
Size	1/8	1/4	3/8	1/2 in.
Price	.70	.80	.90	1.00 S.T
Price	.80	1.00	1.10	1.35 D.T

†L.H. No.	22	23	24	25
Size	1/8	1/4	3/8	1/2 in.
Price	.70	.80	.90	1.05

†L.H. No.	29	30	31	32
Size	1/8	1/4	3/8	1/2 in.
Price	.85	.95	1.05	1.15 S.T
Price	.95	1.15	1.25	1.50 D.T

Price List Fig. 264

*T.H. No.	37	38	39
Size	1/8	1/4	3/8 in.
Price	.65	.70	.85

Price List Fig. 265

*T.H. No.	40	41	42
Size	1/8	1/4	3/8 in.
Price	.75	.80	.90

†L.H. No.	43	44	45
Size	1/8	1/4	3/8 in.
Price	.80	.85	1.00

†L.H. No.	46	47	48
Size	1/8	1/4	3/8 in.
Price	.90	.95	1.05

* Tee Handle. † Lever Handle.

CYLINDER COCKS

Forked Lever Handle for Portable Engines

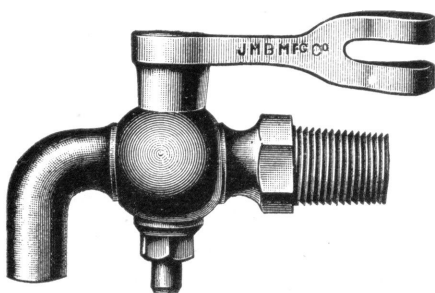


Fig. 266

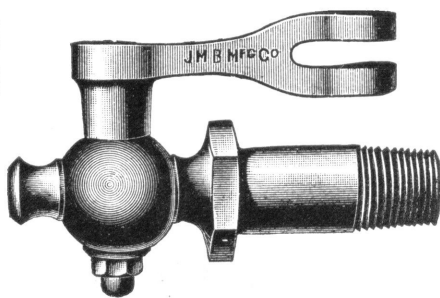


Fig. 267

Size of Shank, Screwed Iron Pipe Thread, Inches	1/4	3/8	1/2
Bent Nose, Finished .....	.90	1.00	1.10
“ “ Nickel Plated.....	1.10	1.20	1.35
Straight Nose, 1 1/2 inch Shank, Finished “	1.25	1.40	1.85
“ “ “ “ Nickel Plated “	1.45	1.60	2.10
Fig 282 “ “ Short “ Finished “	1.20	1.30	1.70
“ “ “ “ “ Nickel Plated “	1.40	1.50	1.95

AIR OR PET COCKS

Forked Lever Handle, Single Thread

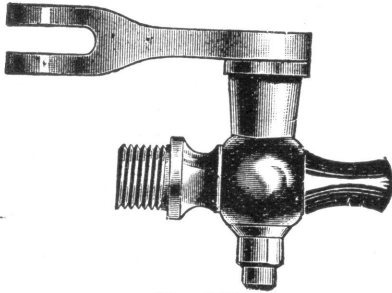


Fig. 268

Forked Lever Handle, Double Thread

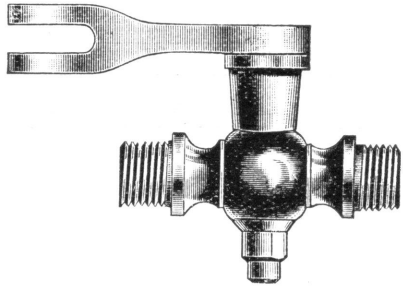
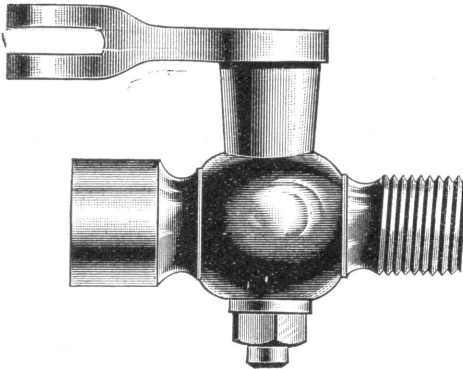


Fig. 269

Size, Screwed Iron Pipe Thread, Inches	1/4	3/8	1/4	3/8
Single Thread, price each	Finished .90	1.00	Nickel Plated 1.05	1.15
Double " " " "	.95	1.10	" 1.10	1.25



Male and Female Fork Handle

Screwed Iron Pipe Thread

Forked Lever Handle

Size	Inches	3/8x3/8	1/2x3/8	1/2x1/2
Price Finished		1.25	1.50	1.75
" N. Plated		1.50	1.75	2.00

Fig. 270

Male Both Ends, Forked lever handle

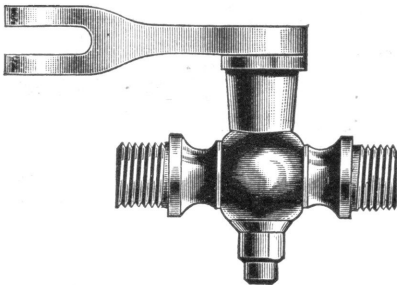


Fig. 271

Female Both Ends, Forked lever handle

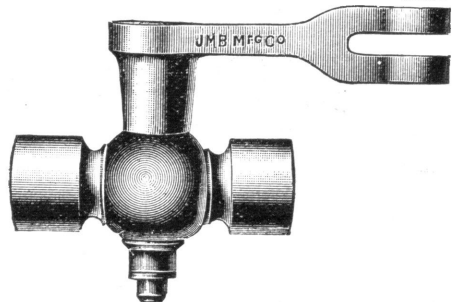


Fig. 272

Size, Scr'd Iron Pipe Thread, Inches	1/4	3/8	1/2	1/4	3/8	1/2
Male Both Ends, price each, Finished	.90	1.00	1.10	N. Plated 1.10	1.20	1.35
Female " " " " " "	.90	1.00	1.10	" 1.10	1.20	1.35

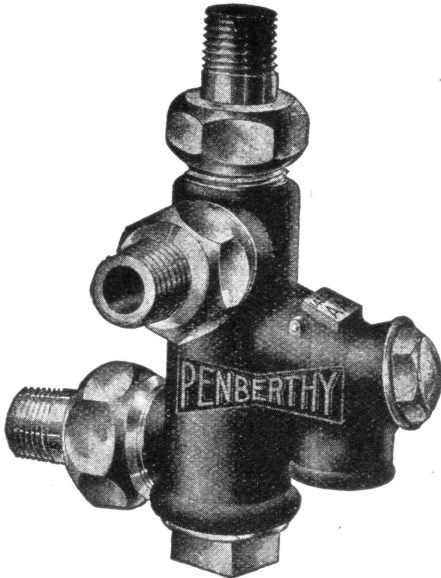


Fig. 273

AUTOMATIC INJECTORS

Style kept in Stock

Style Left and Back. Suction
Left. Overflow Front. Discharge
Back.

SPECIAL CONNECTIONS

Style Left and Right.
Suction Left. Overflow Front
Discharge Right

Fig. 274

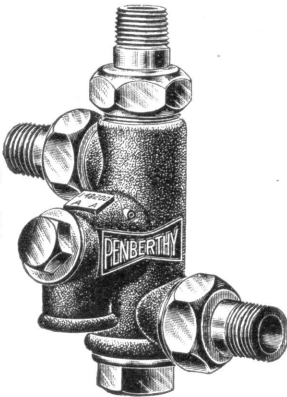
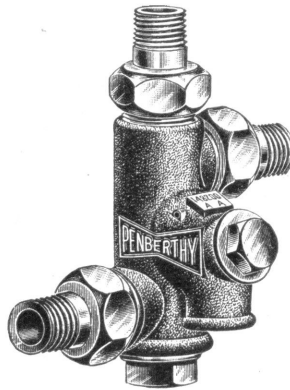


Fig. 275

Style Right and Left.
Suction Right. Overflow Front.
Discharge Left



Special Notice.—Parties returning an Injector for Repairs must write the Agent to whom they return it, or to us if returned direct, and MENTION THE NUMBER of the Injector they return, or put on their business shipping tag. There might be two or three of the same size arrive the same day, and unless WE KNOW THE NUMBER we do not know by whom the Injector is returned. Do not fail to mention the serial number also when ordering parts.

If in want of Second-Hand Refitted Engines, Boilers, Mill and Factory Machinery, Write. Address: Refitted Machinery Dept. We have Largest Stock under British Flag.

Automatic Injector -- cont.

PRICE LIST

SIZE	PRICE	Horse Power Based on Ordinary Tub. Boiler	Horse Power Based on 30 lbs. Water Per H. P. Per Hour	Pipe Connection	Capacity per Hour 1 to 3 ft. lift, 60 to 85 lbs. Steam Pressure		Weight	
					Maximum Gall.	Minimum Gall.	Lbs.	Oz.
O	\$15 00	3 to 6	4 to 8	1/4 inch	60	40	2	5
OO	16 00	4 " 8	6 " 12	3/8 "	80	55	2	9
A	18 00	8 " 16	10 " 20	1/2 "	135	70	3	8
AA	20 00	12 " 22	15 " 30	1/2 "	180	100	3	8
B	25 00	17 " 32	22 " 45	3/4 "	260	140	5	0
BB	30 00	20 " 45	25 " 60	3/4 "	355	170	5	0
C	40 00	40 " 65	45 " 80	1 "	475	300	8	0
CC	45 00	45 " 80	50 " 100	1 "	600	350	8	0
D	55 00	50 " 100	60 " 135	1 1/4 "	800	425	11	0
DD	60 00	75 " 135	85 " 165	1 1/4 "	1,000	525	11	0
E	75 00	100 " 180	125 " 235	1 1/2 "	1,400	800	20	8
EE	90 00	115 " 255	150 " 320	1 1/2 "	1,900	900	22	0
F	110 00	160 " 320	200 " 400	2 "	2,400	1,300	36	8
FF	125 00	200 " 400	250 " 500	2 "	3,000	1,600	40	8
G	150 00	300 " 500	325 " 600	2 1/2 "	3,600	2,000	75	0
GG	200 00	375 " 600	400 " 750	2 1/2 "	4,200	2,500	75	0

N.B.—Where Injectors are ordered by size connections we always send the size having the larger capacity, Order by letter.

“Penberthy” Automatic Injector

Parts or Repairs.—Extra parts can be furnished for all Injectors numbered above 21,000. Injectors numbered under 21,000 should be sent to the factory for repairs with our latest improved jets, which can only be put in these old machines at the factory, as body has to be slightly altered.

In ordering Injector parts do not fail to send the serial number and letter, which will be found on top of the overflow, otherwise we must write to you for the information, and thus delay shipment.

In referring to or ordering parts, call them by letter or name as in cut, and not by such names as “upper valve”, “lower valve”, etc.

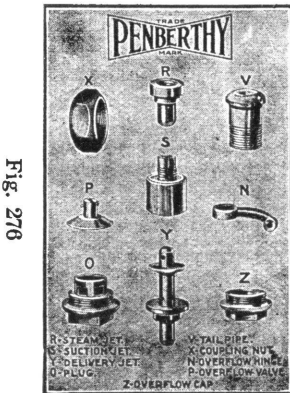


Fig. 276

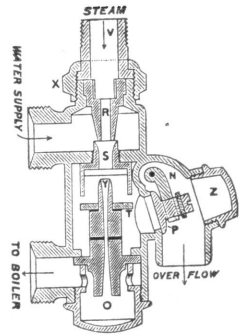


Fig. 277

WRITE FOR DISCOUNTS

“Penberthy” Automatic Injector - cont.

PRICE LIST OF PARTS OR REPAIRS

SIZE INJECTOR	O or OO	A or AA	B or BB	C or CC	D or DD	E	EE	F	FF	G or GG
R—Steam Jet.....	\$o 25	\$o 35	\$o 45	\$o 55	\$o 65	\$o 75	\$o 75	\$o 85	\$1 00	\$2 00
S—Suction Jet....	25	35	45	55	65	75	75	85	1 00	3 00
Y—Delivery Jet...	1 25	1 50	2 00	2 50	3 00	3 75	4 50	5 50	6 50	9 00
X—Coupling Nut..	25	30	40	50	60	1 25	1 25	1 50	1 50	2 00
V—Tail Pipe.....	25	30	40	50	60	80	80	1 00	1 00	1 25
Z—Overflow Cap..	30	40	50	60	70	80	80	90	90	1 50
P—Overflow Valve	40	50	60	75	90	1 00	1 10	1 25	1 25	1 75
N—Overflow Hinge	10	10	15	15	15	20	20	20	20	30
O—Plug	60	80	1 00	1 25	1 50	1 75	1 75	2 00	2 00	4 00
Strainer.....	40	45	50	55	60	75	75	1 00	1 00	1 50

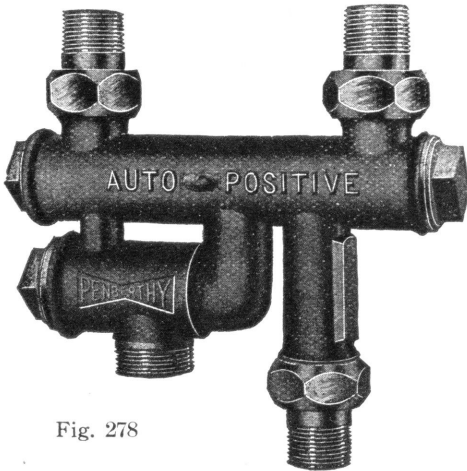


Fig. 278

“Auto-Positive”
Injector

Automatic and Restarting for
High Pressures and Hot
Water Supply

While a large majority of boilers carry less than 150 lbs. pressure [the usual high working pressure of the ordinary automatic Injector], there is an increased demand for an Injector operating between 150 and 200 lbs., pressure. There is also a demand for an Injector that will handle a water supply that has become heated by the use of the syphon [or Ejector] and in

other ways, and is consequently too hot for Injectors of the usual automatic type. We offer to the public the “Auto-Positive,” especially designed to meet these requirements.

This Injector differs materially from any other automatic Injector ever before placed upon the market, being constructed on new principles, **having but Five working parts** and combining the features of a positive with those of an automatic Injector. By this combination it is enabled to handle much hotter water and work on higher steam pressures than any other automatic Injector.

PRICE LIST

Size	Price	Pipe Connections			Cap. per hr. 75 to 100 lbs stm. 3 ft lift		H.P. 7½ to 8 gals. per HP per hr	Weight in Pounds
		Stm	Suct	Del.	Max.	Min.		
112	\$18 00	¾	¾	¾	120	40	5 to 15	5 8
113	20 00	½	½	½	200	60	7 “ 25	6 8
115	30 00	¾	¾	¾	400	130	16 “ 50	8 12
118	45 00	1	1	1	675	225	28 “ 85	13 4
119	60 00	1¼	1¼	1¼	1125	375	47 “ 145	20 0
121	90 00	1½	1½	1½	2000	700	87 “ 265	30 8
123	125 00	2	2	2	3000	1000	125 “ 400	52 8
125	200 00	2½	2½	2½	4200	1500	200 “ 600	80 0

**“XL-96”
Improved Ejector, Syphon or Steam Jet Pump**

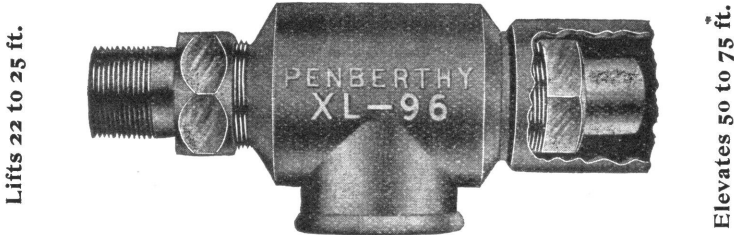


Fig. 279
Price List “XL-96” Ejector

Size Number	1	2	3	4	5	6	7*	8*	9*	10*
Price, all Brass, ea.	\$8.00	10.00	15.00	20.00	25.00	35.00	50.00	70.00	105.00	145.00
Price, Iron Body, Brass Jets,.....ea.	Sizes 1 to 4 made in all Brass only			20.00	27.50	40.00	50.00	70.00	95.00	
Pipe Con. Steam	3/8	1/2	3/4	1	1	1 1/4	1 1/8	2	2	2 1/2
Pipe Con. Suct. and Delivery	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4
Capacity per hour 40 to 65 lbs. steam 3 ft. lift..... gal.	240	500	840	1,350	1,950	3,500	5,700	9,500	13,600	18,400
20 to 40 lbs. or 65 to 100 lbs..... gal.	235	450	700	1,300	1,850	3,000	4,350	8,160	12,400	17,100
40 to 65 lbs, 50 feet elevation,.. gal.	120	250	420	650	975	1,750	2,500	4,750	6,800	9,200
40 to 65 lbs, 25 feet elevation,.. gal.	180	375	625	950	1,450	2,600	3,750	7,200	10,200	13,800
Vertical Lift 40 to 75 lbs. steam feet	23	25	25	24	26	26	26	25	25	25
25 to 40 or 75 to 100 lbs.....feet	20	22	22	21 1/2	21 1/2	21 1/2	22	20	21	21

When ordering “XL-96” Ejectors specify our number

Sizes 5 and 6 will be sent in brass unless ordered of iron

*Unless ordered in brass, sizes 7 to 9, inclusive, will be shipped with iron body brass jets and steam connection; and size 10, all iron except jets

The jets in all sizes are made of a special hard metal, insuring good wearing qualities

When a 1-in. Ejector is ordered we send No. 3, not No. 4 or 5, etc.

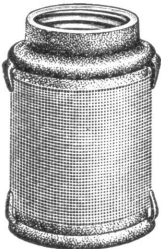


Fig. 280

STRAINER for Hose or Pipe

After considerable experimenting with different Strainers and different sizes of wire cloth, we have finally adopted, as best suited to the requirements of an Injector or Ejector [in the sizes up to 1 inch], the style Strainer shown in accompanying cut. The Strainer is made from a special wire cloth made for us.

We send one of these Strainers with every Injector, which must be used to prevent passageways in the jets from being stopped up by pieces of dirt too large to be forced through them. We will furnish extra Strainers at following prices.

Pipe Strainers furnished in brass, as shown in cut; Hose Strainers in Malleable Iron.

Price List of Strainer

Size Pipe	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Price, all Brass	\$0.40	0.45	0.50	0.55	0.60	0.75	1.00	1.50

With Injectors sizes above 1 inch [C or CC] we send a flat Strainer. Below 1 inch the above style.

ROUND BODY WATER GAUGE

Rough or Polished Brass, with Iron or Wood Wheels

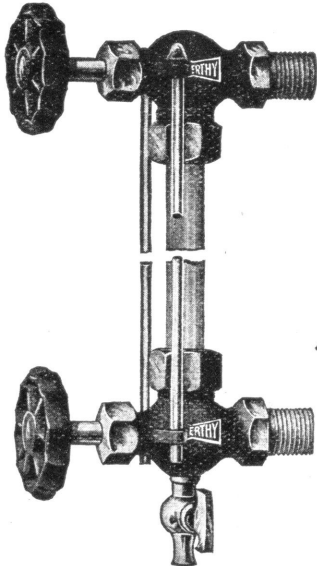


Fig. 281
Rough Brass

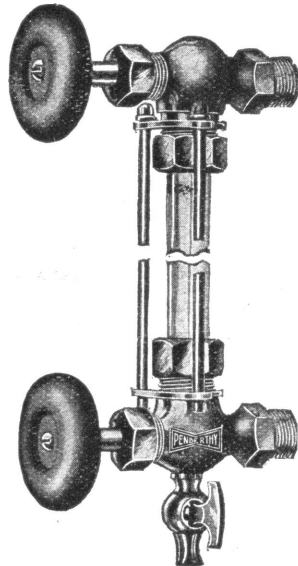


Fig. 282
Polished Brass

Price List and Description of Rough Brass

Size of Glass	Pipe Th'rd of Shank	No. of G'rds	Rough Body, Bronze Finish, Plain Stem, Iron Wheel		Rough Body, Bronze Finish, Plain Stem, Wood Wheel	
			No.	List	No.	List
1/2 by 10	3/8	2	80 A	\$2 75	80 C	\$3 25
1/2 " 12	3/8	2	81 A	2 75	81 C	3 25
5/8 " 10	1/2	2	82 A	3 00	82 C	3 50
5/8 " 10	1/2	4	83 A	3 50	83 C	4 00
5/8 " 12	1/2	2	84 A	3 00	84 C	3 50
5/8 " 12	1/2	4	85 A	3 50	85 C	4 00
5/8 " 14	1/2	2	86 A	3 25	86 C	3 75
5/8 " 14	1/2	4	87 A	3 75	87 C	4 25
3/4 " 14	3/4	2	88 A	4 50	88 C	5 00
3/4 " 14	3/4	4	89 A	5 25	89 C	5 75
3/4 " 16	3/4	2	90 A	4 50	90 C	5 00
3/4 " 16	3/4	4	91 A	5 25	91 C	5 75

Order by Size Number and Letter

WRITE FOR DISCOUNTS

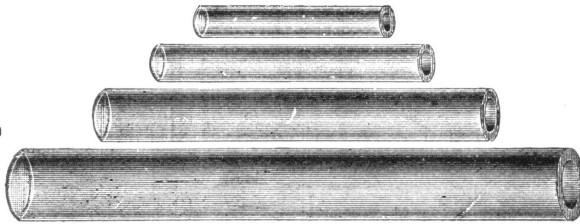
ROUND BODY WATER GAUGE - cont.

Price List and Description of Polished Brass

Size of Glass	Pipe Thread of Shank	No. of Guards	Finished Body, Plain Stem, Iron Wheel		Finished Body, Plain Stem, Wood Wheel	
			No.	List	No.	List
1/2 by 10	3/8	2	80 E	\$3 25	80 G	\$3 75
1/2 " 12	3/8	2	81 E	3 25	81 G	3 75
5/8 " 10	1/2	2	82 E	3 75	82 G	4 25
5/8 " 10	1/2	4	83 E	4 50	83 G	5 00
5/8 " 12	1/2	2	84 E	3 75	84 G	4 25
5/8 " 12	1/2	4	85 E	4 50	85 G	5 00
5/8 " 14	1/2	2	86 E	4 00	86 G	4 50
5/8 " 14	1/2	4	87 E	4 75	87 G	5 25
5/8 " 14	3/4	2	88 E	5 00	88 G	5 50
3/4 " 14	3/4	4	89 E	5 50	89 G	6 25
3/4 " 16	3/4	2	90 E	4 75	90 G	5 50
3/4 " 16	3/4	4	91 E	5 50	91 G	25

Order by Size Number and Letter

Fig. 283



**Scotch
Water
Gauge
Glasses**

Length, Inches	Outside Diameter, Inches						Length, Inches	Outside Diameter, Inches					
	1/2	3/8	3/4	1/2	1	1 1/4		1/2	3/8	3/4	1	1 1/4	
7 and 8 . . . price each	.20	.20	.30	.42	.51	.60	price each	.50	.50	.62	.85	1.01	
9 "	.22	.27	.33	.47	.56	.66	21 "	.52	.52	.65	.89	1.12	
10 "	.25	.27	.33	.47	.56	.66	22 "	.55	.55	.68	.93	1.12	
11 "	.27	.30	.36	.51	.61	.71	23 "	.57	.57	.71	.97	1.22	
12 "	.30	.32	.40	.55	.66	.76	24 "	.60	.60	.74	1.01	1.22	
13 "	.32	.35	.43	.59	.71	.81	30 "	.75	.75	.93	1.27	1.52	
14 "	.35	.37	.46	.63	.76	.86	36 "	.90	.90	1.12	1.52	1.83	
15 "	.37	.40	.49	.68	.81	.91	48 "	1.21	1.21	1.50	2.03	2.43	
16 "	.40	.42	.52	.72	.86	.96	60 "	1.51	1.51	1.88	2.54	3.04	
17 "	.42	.45	.55	.76	.91	.96	72 "						
18 "	.45	.47	.59	.80	.96		84 "						
19 "	.47						96 "						

RUBBER GASKETS

1/2-inch, 50c. per doz. 5/8-inch, 50c. per doz. 3/4-inch, 60c. per doz.

Chesterton's Gauge Glass Cutter

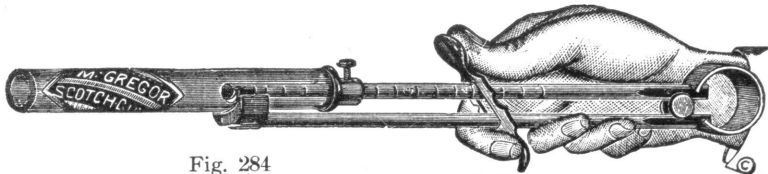
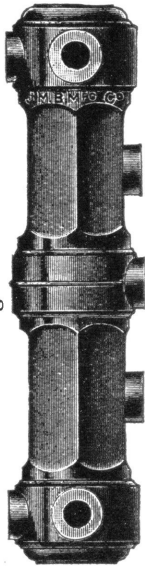


Fig. 284

Nickel Plated, each, \$2.00

Fig. 285



WATER COLUMNS

No 1. Tapped for half-inch Trimmings,

PRICE \$2.00

No. 2. Tapped for threequarter-inch Trimmings,

PRICE \$2.50

COMPRESSION GAUGE COCKS

Polished or Rough Brass

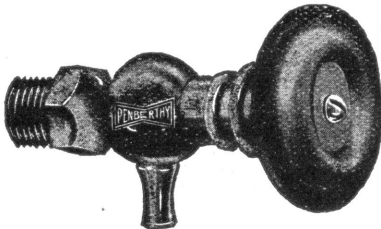


Fig. 286

Finished, without Stuffing Box,
Wood Wheel

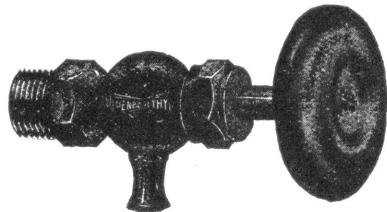


Fig. 287

Finished, with Stuffing Box,
Wood Wheel

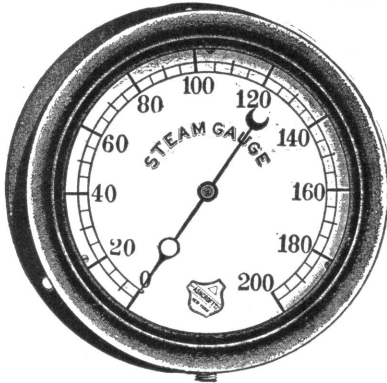
Order by Number, specifying size

PRICE LIST

No.	Style Body	Style Wheel	3/8 inch	1/2 inch	3/4 inch
1	Rough Brass, without Stuffing Box	Iron	\$0 75	\$0 85	\$0 95
2	“ “ “ “	Wood	80	90	1 00
3	“ “ with “ “	Iron	90	95	1 20
4	“ “ “ “	Wood	95	1 00	1 25
5	Finished Brass, without Stuffing Box	Iron	90	95	1 20
6	“ “ “ “	Wood	95	1 00	1 25
7	“ “ with “ “	Iron	1 15	1 25	1 40
8	“ “ “ “	Wood	1 20	1 30	1 45

WRITE FOR DISCOUNTS

Fig. 288



Ashcroft Steam or Pressure Gauges

With Single Bourdon Springs

PRICES EACH

Including Cock for each Gauge

Size	Iron Case, Brass Ring	Iron Case, Nickerled Ring	Brass Case	Nickerled Case	Brass Deep Case	Nickerled Deep Case
12 inch Dial	\$50 00	\$51 50	\$75 00	\$79 00	\$80 00	\$84 00
10 "	32 00	33 00	40 00	43 00	44 00	47 00
8 1/2 "	22 00	22 75	30 00	32 50	33 50	36 00
6 3/4 "	16 00	16 60	20 00	22 00	23 00	25 00
6 "	13 00	13 50	16 00	17 50		
5 1/2 "	10 00	10 25	12 00	13 25		
5 "	8 00	8 20	11 00	12 00		
4 1/2 "	8 00	8 20	10 00	11 00		
3 1/2 "	7 00	7 18	9 00	9 75		
3 "	6 00	6 15	8 00	8 60		

Siphons must be attached to these Gauges when they are used for steam pressures to prevent anything but water entering the spring of the Gauge.

When ordering, do not fail to state the pressure per square inch to which you wish the Gauges graduated. All Pressure Gauges, particularly when used under steam pressure, should be graduated to double their working pressure to ensure the greatest durability.

SYPHON

For Steam Gauge

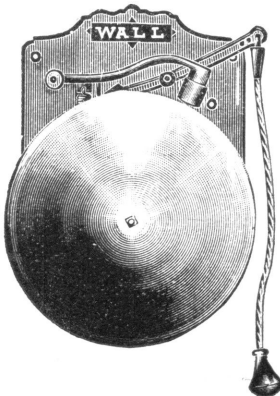
Size of Iron Pipe..... 1/4 inch.

Price, Length 8 inches..... \$0.50 each.



Fig. 289

Fig. 290



Indestructible Steel Gongs

Nickel-Plated Shell, Aluminum Plated Base
Nickel-Plated Malleable Attachments

A Handsome and Durable Trip Gong

No.	Size	Loco. or Trip Gong	Price
350	6 in. dia.		\$1.50 each
351	8 "	"	3.00 "
352	9 "	"	4.00 "
353	10 "	"	5.00 "
354	11 "	"	6.25 "
355	12 "	"	7.50 "
356	14 "	"	10.00 "

We sell this gong guaranteeing the shell to be absolutely indestructible, and we will replace any shell that may prove defective under any condition

STANDARD BRASS STEAM WHISTLES

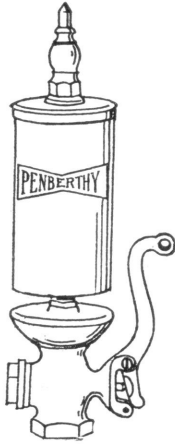


Fig. 291
With Valve

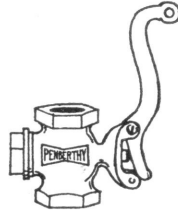


Fig. 292
Whistle Valve



Fig. 293
Without Valve

Whistle Fig. 291 with Valve

Diam. of Bell	In.	1½	2	2½	3	3½	4	5	6
L'gth of Short Bell	"	3¼	4	4½	5	5¾	6½	8	9½
Size of Pipe Con.	"	¾	1½	¾	¾	1	1¼	1½	2
Price of Short Bell	ea.	\$4 00	\$5 50	\$6 50	\$8 50	\$11 50	\$15 00	\$22 50	\$33 00
L'gth of Long	In.	4½	6	7½	9	10½	12	15	18
Price " "	ea.	4 60	6 15	7 25	9 60	12 80	16 50	25 75	37 50

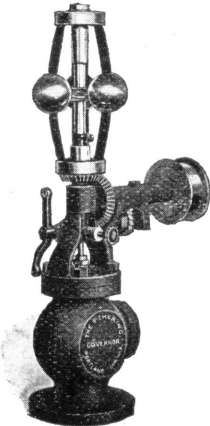
Valve only, Fig. 292

Size of Pipe Con.	In.	¾	1½	¾	1	1¼	1½	2
Price,	each	\$2 00	2 50	3 00	3 50	5 00	6 00	9 00

Whistle Fig. 293 without Valve

Diam. of Bell	In.	1½	2	2½	3	3½	4	5	6
L'gth of Short Bell	"	3¼	4	4½	5	5¾	6½	8	9½
Size of Pipe Con.	"	¾	1½	¾	¾	1	1¼	1½	2
Price of Short Bell	ea.	\$3 00	\$4 35	\$5 25	\$7 25	\$9 50	\$12 00	\$19 00	\$24 00
L'gth of Long Bell	In.	4½	6	7½	9	10½	12	15	18
Price " " "	ea.	3 60	5 00	6 00	8 35	10 80	13 50	22 25	28 50

Fig. 294
Class B, represents Governor with Speed Ronger by use of which the speed of Engine can be varied while in motion. Sawyer's Lever is also included.



THE PICKER- ING GOVER- NOR

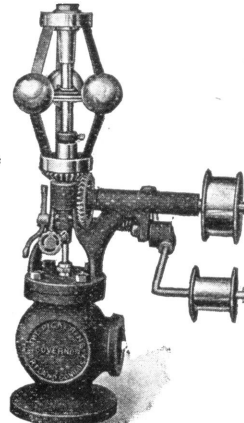
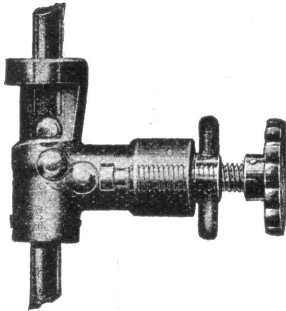


Fig. 295
Class A, to which is added the Automatic Safety Stop. This stop closes valve when belt breaks or runs off pulley and is simple and certain in its action.

THE PICKERING GOVERNOR - cont.

PICKERING BALL RANGER



Permits increasing speed of Engine 50% to 75% from normal, by simply turning small hand wheel, which can be done while Governor is running.

Fig. 296

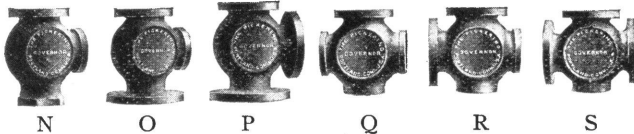


Fig. 297

The above illustrations show different forms of Valve Chambers commonly used. Please specify in ordering kind wanted

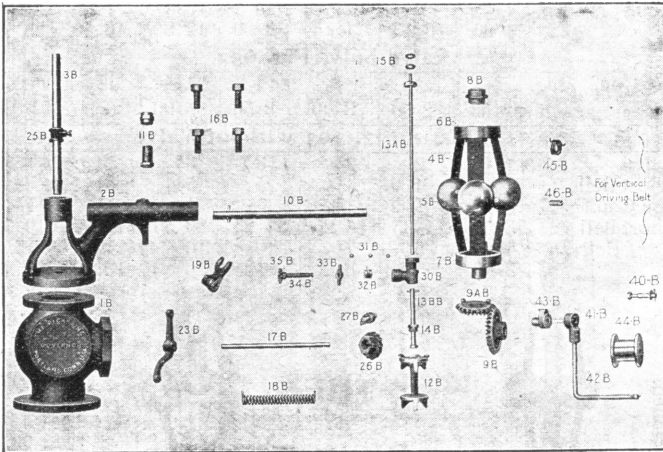


Fig. 298

PARTS OF BALL RANGER GOVERNOR IN DETAIL

Always give Number of Governor stamped on lower brass band of Governor head

FOR PRICE LIST OF THE PICKERING GOVERNOR
SEE OPPOSITE PAGE

The Pickering Governor -- cont.

Governor.	Class B. Plain.	Class B. Finished.	Class A. Plain.	Class A. Finished.	Diam. Base Flange.	Diam. Side Flange.	Speed of Governor.	Diam. of Pulley.	Width of Belt.
½ Inch	\$14.00	\$16.00	\$16.50	\$18.50	Screw (or 3½)	Screw	500	2	¾
¾ "	16.00	18.00	18.50	20.50	Screw (or 3½)	Screw	500	2	¾
1 "	18.00	20.00	21.00	23.00	Screw (or 4½)	Screw	350	2½	1¼
1¼ "	21.00	24.00	24.50	27.50	Screw (or 5)	Screw	350	2½	1¼
1½ "	25.00	29.00	29.50	33.50	5¾	Screw	380	3½	1½
2 "	30.00	34.00	36.00	40.00	6½	Screw	380	3½	1½
2¼ "	35.00	40.00	42.00	47.00	7	6	300	4	2
2½ "	40.00	45.00	48.00	53.00	7½	Screw (or 6½)	300	4	2
3 "	50.00	58.00	59.00	67.00	9	8	340	4	2
3½ "	60.00	69.00	71.00	80.00	10	8½	340	4	2
4 "	71.00	81.00	83.00	93.00	11	9½	320	5	2½
4½ "	83.00	94.00	96.00	107.00	11	10	320	5	2½
5 "	94.00	106.00	109.00	121.00	12	11	275	5	2½
6 "	122.00	136.00	140.00	154.00	14	13	275	6	3
7 "	150.00	166.00	170.00	186.00	15	14	275	7	3
8 "	185.00	202.00	210.00	227.00	17	15	260	7	3
9 "	215.00	235.00	241.00	261.00	18	16	260	8	3½
10 "	240.00	260.00	270.00	290.00	20	18	225	8	3½

Unless otherwise ordered connections will be provided in accordance with list

When ordering Class A Governors please specify if for Vertical driving belt, otherwise we supply for Horizontal Belt, but will arrange either way at same price.

The Automatic Stop Motion can be added to any Class B Governor of Ball Ranger type by the user, without removing Governor from Engine. It is simply necessary to order the Automatic parts which are supplied at a moderate charge

WRITE FOR DISCOUNTS

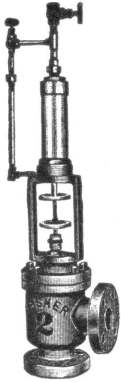


Fig 299

THE FISHER STEAM PUMP GOVERNOR

Will regulate the pressure of the pump so it cannot exceed the pressure at which it is set. The regulation is very simple and is quickly made. Loosen the upper lock wheel by turning to the left; adjust with the lower wheel until the desired pressure is reached, then lock with upper wheel by turning to the right. There is a wide limit of variation in pressure with the different size springs we use.

The Steam and Hydraulic Pressures should always be given with each order. This is important in order that we may fit the Governor for the service for which it is intended.

We can supply Special Governors for Air Compressors, carrying a very low pressure, or as high as desired.

Angle and Globe Style in screwed and flanged patterns, are furnished in all sizes, as per price list.

Screwed Angle Pattern always shipped, on one-half to three inch inclusive, unless otherwise specified in the order.

Thirty Days' Trial. Where not known, we ship on thirty days' trial, to be returned at our expense if they do not give satisfaction.

All Orders Shipped by Freight unless ordered otherwise.

SCREWED				PRICES				FLANGED			
1/2 inch ...	\$25.00	1 1/2 inch ...	\$42.50	1 1/2 inch ...	\$45.00	3 1/2 inch ...	\$87.50				
3/4 " "	27.50	2 " "	50.00	2 " "	50.00	4 " "	100.00				
1 " "	30.00	2 1/2 " "	58.00	2 1/2 " "	60.00	5 " "	125.00				
1 1/4 " "	35.00	3 " "	70.00	3 " "	75.00	6 " "	150.00				
						8 " "	225.00				

Small Flanges. One inch and 1 1/4 inch flanged governors made on order at \$5.00 additional to list, over screwed pattern.

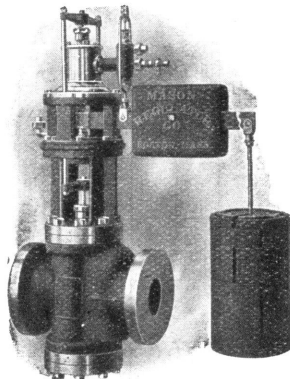


Fig. 300

Mason Steam Pump Pressure Regulator for Hydraulic Elevator Service

General Description

The Mason Steam Pump Pressure Regulator for Hydraulic Elevator Service was designed to meet the requirements of the larger sizes of steam pumps operating hydraulic elevators. The important features of this regulator are its extreme sensitiveness and quick action, as it completely opens or closes the steam valve with the slightest variation of pressure.

The Valve which controls the steam pressure is a Mason Double-seated Balanced Valve mounted on a suitable frame; above this valve is the diaphragm chamber, containing a heavy rubber diaphragm, under which water pressure from the system is admitted through a small pipe, this pressure being resisted by a weighted lever suspended on hardened steel knife edges.

Mounted on top of the diaphragm chamber is a hydraulic operating cylinder, its piston being connected by means of crossheads and side rods to the double-seated steam valve below. Attached to this operating cylinder is a small double acting pilot valve which controls the pressure to the piston, being operated by a weighted lever, thus admitting and exhausting pressure from the operating cylinder, thereby positively opening and closing the steam valve.

Mason Steam Pump Pressure Regulator - cont.

The Mason Steam Pump Pressure Regulator for Hydraulic Elevator Service has been extensively used during the past fifteen years for controlling steam pumps operating hydraulic elevators, thousands of them being in use and giving entire satisfaction. They are, today, the standard for this work.

NOTE.—On pipe sizes 2 inches and below, the Mason Steam Pump Pressure Regulator, will usually take the place of the lever style.

Price List for Water Pressures from 10 to 200 lbs.

1/2 inch on bracket	\$ 42.50	2 inches	\$ 45.00	4 1/2 inches	\$110.00
3/4 " " "	42.50	2 1/2 " " " "	55.00	5 " " " "	125.00
1 " " "	42.50	3 " " " "	70.00	6 " " " "	170.00
1 1/4 " " "	43.50	3 1/2 " " " "	80.00	8 " " " "	240.00
1 1/2 " " "	43.50	4 " " " "	90.00	10 " " " "	340.00
				12 " " " "	435.00

For water pressures from 200 to 400 lbs. a slight change is necessary, for which no extra charge is made.

For water pressures from 400 to 3000 lbs. the approximate pressure must be stated on order and \$18.00 added to list price.

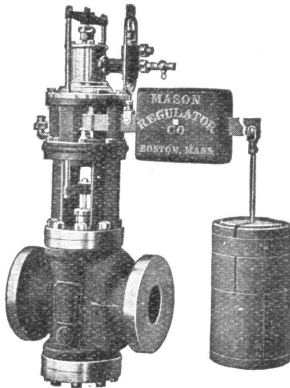


Fig. 301

Mason By-pass or Water Relief Valve for Power and Electric Pumps

General-Description

The Mason By-pass or Water Relief Valve for Power and Electric Pumps was designed to remove the load from power driven pumps, and is extensively used on pumps operated by electric motors, gas engines, water wheels and line shafts. It is placed in a branch leading from the delivery pipe and either discharges directly into the suction pipe or into suction tank, as preferred.

PRICE LIST

1/2 inch on bracket	\$42.50	1 1/2 inch on bracket	\$43.50	3 1/2 inches	\$ 80.00
3/4 " " "	42.50	2 " " "	45.00	4 " " "	90.00
1 " " "	42.50	2 1/2 " " "	55.00	4 1/2 " " "	110.00
1 1/4 " " "	43.50	3 " " "	70.00	5 " " "	125.00

NOTE.—Do not confound this valve with an ordinary Water Relief or Safety Valve, which depends upon the pressure on the pump to keep it open, and which does not relieve the pump of its load but simply allows the surplus pressure to pass off. The operation of our By-pass Valve is entirely different, the main valve being held wide open by the pressure in the tank, and it does not depend in any way upon the pressure on the pump.

For water pressures from 200 to 400 lbs., a slight change is necessary, for which no extra charge is made.

WRITE FOR DISCOUNTS

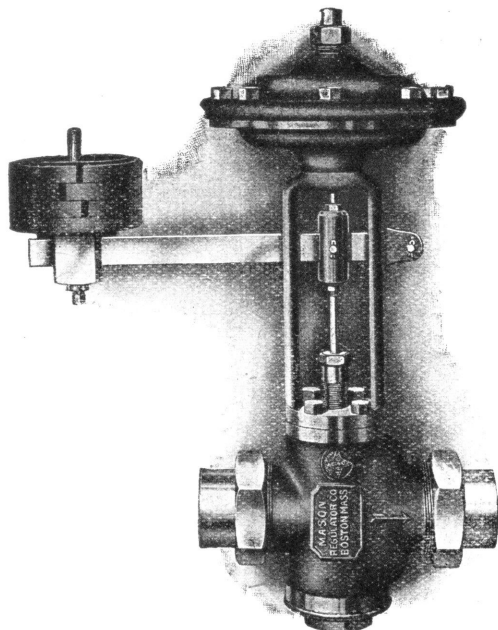


Fig. 302

Mason Steam Vacuum Pump Regulator

The Mason Steam Vacuum Pump Regulator was designed to control a steam-operated vacuum pump so as to maintain a uniform vacuum.

The regulator consists of a Mason Balanced Valve on which is mounted a diaphragm chamber containing a rubber diaphragm. This diaphragm is connected with the valve by a valve stem, the valve being held open by weights which are adjustable to the desired vacuum.

The action of the vacuum lifts the diaphragm and with it the weighted lever and valve, thereby exactly regulating the amount of steam to the requirements of the pump and automatically maintaining a uniform vacuum, regardless of any variation of steam pressure or demand on the pump.

PRICE LIST

1/2 inch	\$25.00	1 inch	\$28.00	1 1/2 inch	\$35.00	2 1/2 inches	\$57.00
3/4 "	25.00	1 1/4 "	33.00	2 "	44.00	3 "	72.00

These regulators are very sensitive and have been found very satisfactory in service

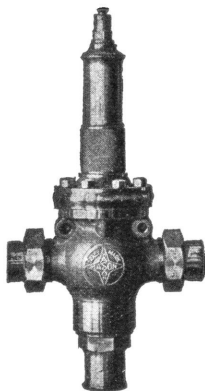


Fig. 303

Mason Steam Pump Pressure Regulator

Spring Type for General Use)

General Description

The Mason Steam Pump Pressure Regulator is designed for fire, boiler feed, air, and water works pumps, having steam supply pipe 4 inch or smaller, or any class of pumping machinery where it is necessary to maintain a constant pressure. It is particularly adapted for elevator pumps having a steam supply pipe 2 inch or smaller, but for the larger elevator pumps our lever style regulator is preferable.

The regulator is entirely self-contained. It is placed in the steam supply pipe to the pump and connected by 1/4 inch pipe to the discharge system, thereby exactly regulating the amount of steam to the requirements of the pump and automatically maintaining a uniform discharge pressure, regardless of any variation of steam pressure or demand on the pump. The regulator is provided with a dashpot, which positively prevents the pump from jumping under sudden changes of discharge pressure.

All cast iron bodies are flanged, extra heavy standard.

Mason Steam Pump Pressure Regulator - cont.

PRICE LIST AND WEIGHTS

SIZE		WEIGHT	GROSS WEIGHT	PRICE
1/2 inch	Screwed	9 lbs.	11 lbs.	\$ 20.00
3/4 "	"	9 "	11 "	20.00
1 "	"	15 "	18 "	25.00
1 1/4 "	"	19 "	22 "	30.00
1 1/2 "	"	29 "	36 "	42.00
2 "	"	48 "	55 "	55.00
2 1/2 "	Flanged	74 "	92 "	68.00
3 "	"	115 "	133 "	85.00
3 1/2 "	"	167 "	185 "	100.00
4 "	"	212 "	238 "	115.00

LOW PRESSURE WATER FEEDER

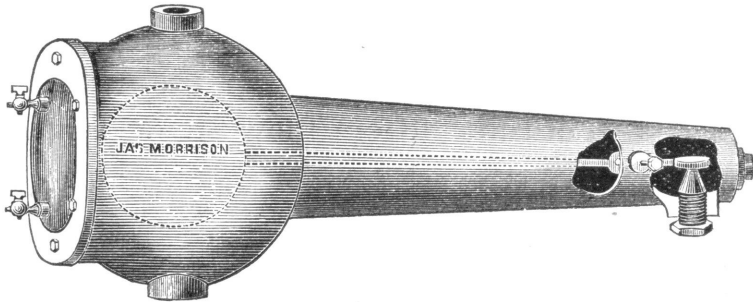


Fig. 304

Price, each.....\$25.00

LOW PRESSURE DAMPER REGULATOR

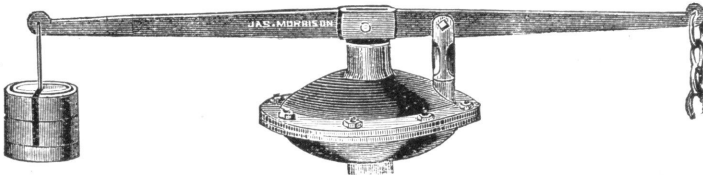


Fig. 305

Price, each.....\$8.00

Rubber Diaphragms, price each.....2.00

INTERMITTENT FLOW STEAM TRAPS

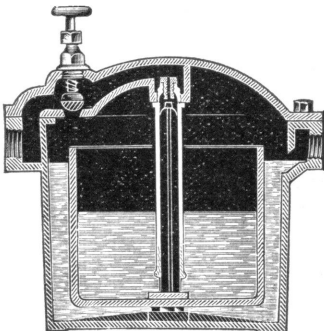


Fig. 306

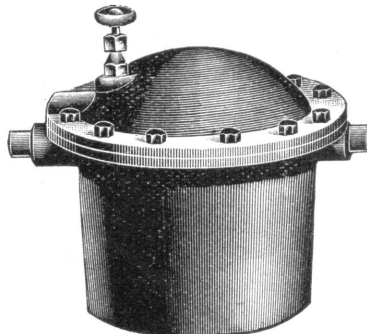


Fig. 307

Intermittent Flow Steam Traps - cont.

These cuts represent a cross-section and outside view of our new Steam Trap. As will be observed from the cuts, the water enters through a curved port, the shape of which makes it impossible for water to get into the bucket, except by overflowing it. The water does not have to rise into the lid of the trap. There are no diaphragms in it to rust or otherwise get out of order. By opening the valve in the lid water from exhaust steam passes through freely without the trap acting. All working parts are of brass and cannot rust.

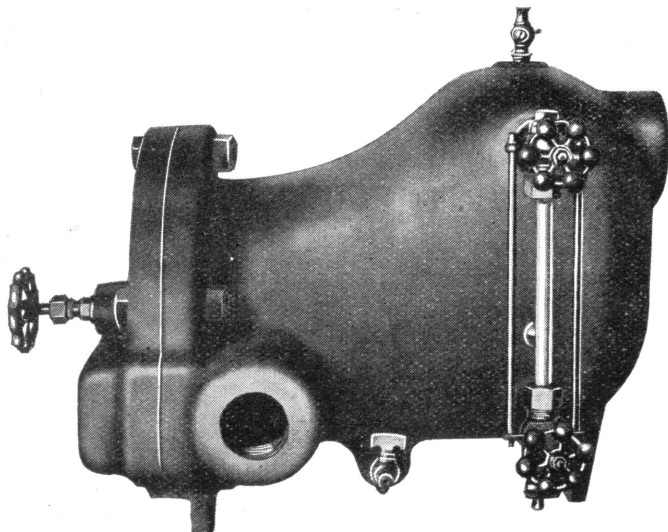
These traps are made for either high or low pressure service. The greatest possible capacity is obtained from these traps when they are working on the steam pressure for which they are made. They will work satisfactorily on lower pressure down to one pound, but with a proportionately decreased capacity; hence the importance of our knowing the pressure on which they are to operate. It is never advisable to use a high pressure trap on low pressure work as the nearer the trap is constructed to suit the pressure on which it is to operate, the greater will be its capacity for the reason that the difference as to the limit of pressure upon which any steam trap will give the best service, is provided for by increasing or decreasing the size of the valve operated by the float. The higher the pressure, the smaller the valve; the lower the pressure, the larger the valve.

Price List of Intermittent Flow Steam Traps

No. of Trap	Inlet Size	Outlet Size	Capacity in Lineal Feet of 1" Pipe	Price
1	$\frac{3}{4}$ inch	$\frac{3}{4}$ inch	1,800	\$16 50
2	$\frac{3}{4}$ "	$\frac{3}{4}$ "	3,000	20 00
3	1 "	1 "	6,000	32 00
4	$1\frac{1}{4}$ "	$1\frac{1}{4}$ "	10,000	47 00
5	$1\frac{1}{2}$ "	$1\frac{1}{2}$ "	15,000	65 00

The above rating of capacities are for direct radiation. Where coils of pipe are used in connection with fans or blowers, figure one foot in blast or blower heater to three feet in direct radiation.

Continuous Flow Steam Traps



SEE PRICE LIST NEXT PAGE

Fig. 308

Continuous Flow Steam Traps - cont.

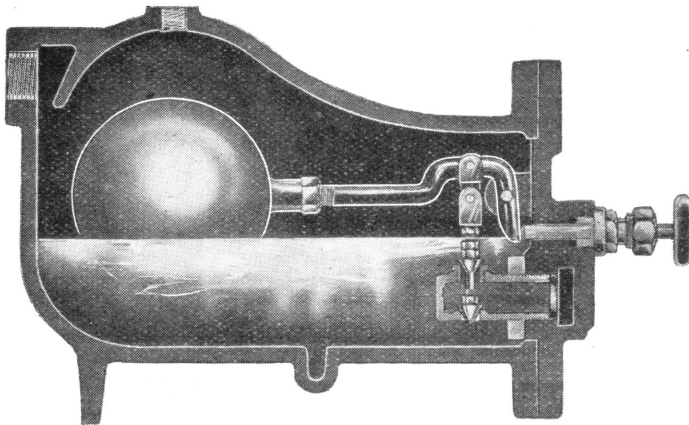


Fig. 309

This Steam Trap is a continuous flow trap designed for general service and suitable for the use in connection with either high or low pressure work. All the working parts are attached direct to the cover, and may be removed without disconnecting the pipes. The valves, which control the discharge of the condensation, are perfectly balanced at every point of their throw, and are so constructed that the inevitable dirt, grit, and sediment which enters the trap will not interfere with its operation. These valves are operated by a seamless copper float, tested to 300 lbs. pressure, and the casting in which they work is made from high-grade steam metal. The inlet and outlet are of the same size, the latter being on the side shunted from the cover. A by-pass valve—which may be used at will—is provided in the cover. Each trap has a plugged drain hole in the bottom, so that the dirt, scale or sediment which accumulates, can be removed without opening it. When it is required, this trap can be fitted with a water gauge at slight additional cost, so that its operation may be observed.

As long as condensation continues to enter the trap the valves will remain open and there will be a continuous discharge; when the condensation discontinues, the water line will fall, allowing the float to descend and close the valves. Thus it will be seen that the valves are sealed at all times with from two to four inches of water, absolutely prevents the escape and waste of steam. This trap is not a boiler return trap, but it will discharge approximately two feet in height for every pound pressure under which it is working.

PRICE LIST OF CONTINUOUS FLOW STEAM TRAPS

Size Number	Capacity 1" Pipe	Capacity in sq. ft. Radiating Surface	Approx. Weight in lbs.	Size Inlet and Outlet Pipe in inches	Price
1	1,500	500	25	1/2 inch	15 00
2	3,000	1,000	40	3/4 "	20 00
3	6,500	2,175	60	1 "	30 00
4	15,000	5,000	80	1 1/4 "	45 00
5	20,000	6,675	125	1 1/2 "	60 00
6	30,000	10,000	235	2 "	80 00
7	40,000	13,350	245	2 1/2 "	100 00
8	60,000	20,000	260	3 "	125 00

The above ratings of capacities are for direct radiation. Where pipe coils are used in connection with fans or blowers figure one foot in blast or blower heater to three feet in direct radiation.

WRITE FOR DISCOUNTS

THE ANDERSON IMPROVED STEAM TRAP

Made for High or Low Pressure
or Exhaust Steam

Write for circular describing same fully.

NOTE—This Standard Trap will work at any pressure, from 150 pounds down, but for low pressure service we can furnish the trap with extra large valve outlet; hence in ordering, indicate approximate pressure under which the trap is to be operated.

Every Trap is carefully tested under pressure before leaving factory.

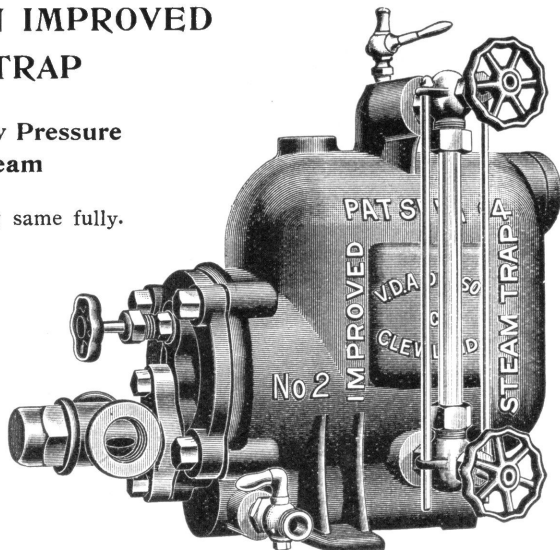


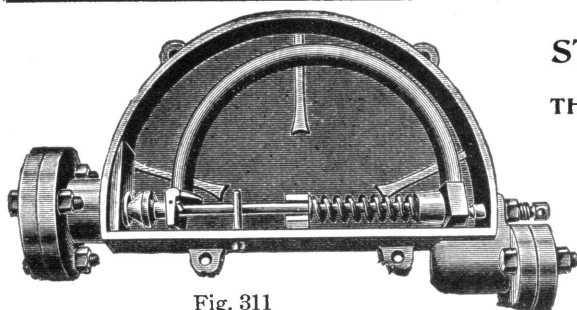
Fig. 310

SIZES, CAPACITY, ETC.

Size Number of Trap	1	2	3	4	5	6	7
Size of Pipe connection, in inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Maximum discharge of condensation, per hour in pounds	750	1,200	2,000	2,800	4,000	6,000	12,000
Greatest number of square feet of surface that should be applied	500	800	1,300	2,350	3,500	5,000	10,000
Greatest number of lineal feet of 1-inch pipe surface that should be applied	1,500	2,500	4,000	7,000	10,000	15,000	30,000
Shipping Weight, in pounds (boxed)	54	67	93	112	145	190	440
Price, . . . \$	20.50	22.50	28.00	35.00	50.00	70.00	120.00

WRITE FOR DISCOUNTS

If in want of Second-Hand Refitted Engines, Boilers, Mill and Factory Machinery, Write. Address: Refitted Machinery Dept. We have largest stock under british flag



STEAM TRAPS

THE "HEINTZ" STEAM SAVER

Trap with cover removed

Fig. 311

Number of Trap	Size of Valve Inches	Capacity Gallons per Minute at 194° F.	Size of Pipe Con. Inches	Shipping Weight lbs.	Price Each		
					Iron	Brass	Nickel Plated
OO	1/8	....	1/2	6 1/4	8.00	10.65	11.50
O	1/4	....	3/4	9	12.00	16.00	17.00
I	1/2	15	3/4	13	18.00	24.75	26.00
II	3/4	31	1	25 1/4	32.50	43.00	45.00
III	1	60	1 1/4	34	45.00	60.00	62.50
IV	1 1/4	94	1 1/2	52	60.00	80.00	85.00
V	1 1/2	135	1 1/2	68 1/2	75.00	100.00	108.00
VI	2	240	2	108	105.00	140.00	150.00

The action of the "HEINTZ" in operation may be readily understood from the following:—

The trap being connected by the inlet of the pipe or apparatus to be drained—at the spot where the condensation accumulates—allows the water to flow out even up to a temperature of 211°, but precisely at 212°, or, in other words, at the temperature at which steam appears, the tube spring has expanded its whole course, and the valve is completely shut. The force by which the valve is actuated is sufficient to close the valve and keep it tight against any pressure. In traps worked mechanically the power actuating the valve—frequently only equivalent to a few ounces—is easily overcome by the friction that may be set up by the first particle of grit or deposit.

The "HEINTZ" is practically a thermometric valve instead of a trap, but it accomplishes more work in better form with less trouble and for a longer period than any mechanical trap in existence.

It will be seen from the above that, as the "HEINTZ" does not actually hold any water nor have any internal pressure, it is necessary to employ a length of pipe as a container for the condensation sufficiently large to ensure having enough holding capacity for the water that has to be passed off, whilst permitting it also to lose its excess of temperature.

IMPORTANT.—Care must be taken to see that the trap discharge is not attached to a drip line that carries any steam unless a check valve is employed.

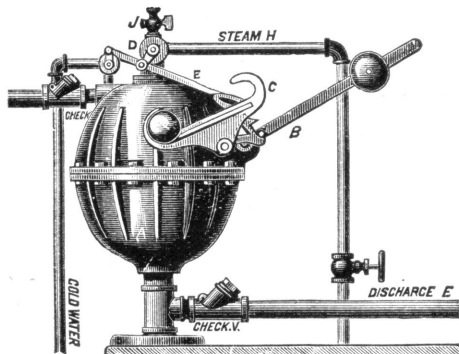


Fig. 312

PRATT & CADY'S RETURN STEAM TRAPS

The Service of Traps depends on circumstances; but the following estimate is a safe one.

Pratt & Cady's Return Steam Traps - cont.

Prices and Capacity

Trap	Will drain 1 inch Pipe	Water Delivery	Price
No. 1	4,000-5,000 feet	200 gallons per hour	100.00
No. 2	8,000-10,000 "	350 " " "	150.00
No. 3	15,000-20,000 "	550 " " "	200.00
No. 4	30,000-40,000 "	800 " " "	300.00

Receivers No. 1, \$8.00 * No. 2, \$10.00 No. 3, \$12.00

Check and Globe Valves extra.

The Morehead Automatic Return or Tank Traps

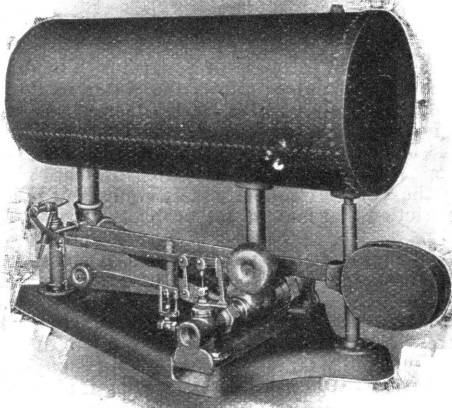


Fig. 313

The trap shown on this page is employed where it is desired to hold in check the steam in coils or other condensing surfaces until the water can be discharged by trap into a drain or open tank to be cooled sufficiently to be returned to the boiler by a pump or injector. They are used in places having a pump and a small amount of condensation or on isolated and independent heating plants where the condensation would not be sufficient to warrant a return trap.

PRICE LIST.—Morehead Automatic Return Steam Traps

No.	Size of Drum	Size of In-let & Out-let Cons.	Size of Steam Pipe connect'ns	Cap. of Water in lbs. per hr.	Drain.Cap. in ft. of 1 in. Pipe Lineal	Cap. Sq. Ft. Direct Radiation	Weight	List
1	10 x 24	1 inch	1 inch	1050	5000	2300	100	\$ 75 00
2	12 x 30	1¼ "	1 "	1850	9000	4000	175	135 00
3	14 x 26	1½ "	1¼ "	4000	20000	9000	250	175 00
4	14 x 38	2 "	1¼ "	5000	35000	16000	275	225 00
5	18 x 42	2½ "	2 "	11000	50000	25000	350	350 00

WRITE FOR DISCOUNTS

Morehead Automatic Separating or Tank Traps

No.	Inlet Inches	Outlet Inches	Capacity of Water disch'ged per hr.	Drain. Cap. in 1 in. Pipe Lineal	Capacity Sq. Ft. Direct Radiation	Weight	List
1	1 inch	1 inch	200 gals.	12000 feet	3000	100	\$ 50 00
2	1¼ " "	1¼ " "	400 " "	25000 " "	5200	175	90 00
3	1½ " "	1½ " "	600 " "	40000 " "	12000	250	120 00
4	2 " "	2 " "	720 " "	60000 " "	21000	275	150 00
5	2½ " "	2½ " "	900 " "	90000 " "	33000	350	275 00

The above capacities in Tank Traps are figured on a basis of 50 pounds pressure to the square inch. The above drainage capacity in inch pipe for Return and Tank Traps, is based on ordinary radiating conditions. For lumber kilns, greenhouses and moist goods, divide by two. For Laundries, brick dryers and wet goods, divide by three. For fan stacks and blowers, divide by five.

Morehead Receivers

No.	Length	Height	Diameter	Price
1	39 inch	16 inch	10 inch	\$18 00
2	49 " "	20 " "	12 " "	25 00

Morehead Trap Receivers afford storage capacity for the excessive amount of condensation that at times comes to the trap; for example, when starting up in the morning, when everything is cold. Swing check valves must be used with all return traps. Check valves and receivers extra. A receiving chamber placed below all drip pipes, must be used in connection with every return trap. No. 1 Receiver has capacity for Traps No. 1 and 2. No. 2 Receiver has capacity for Traps Nos. 3, 4 and 5.

NOTE. 3 feet of 1 inch pipe equals one square foot of surface.
 2.3 feet of 1¼ inch pipe equals one square foot of sur ace.
 2 feet of 1½ inch pipe equals one square foot of surface.
 1.61 feet of 2 inch pipe equals one square foot of surface.

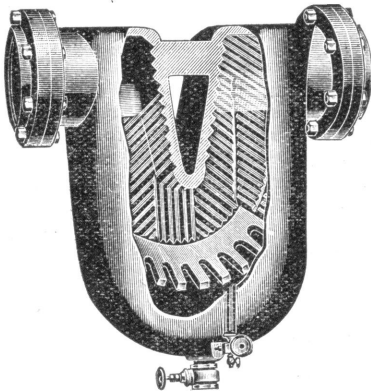


Fig. 314

Standard Steam and Oil Separator

Horizontal Pattern

Points of Superiority

High efficiency in separating and permanently removing water, oil, grease, etc., from steam.

Minimum reduction of pressure in currents passing through the Separator.

Simplicity and durability of construction.

These appliances when used for oil or

grease are automatic, requiring no attention as to cleaning.

Compactness—giving economy of space with minimum weight.

Adaptability to construction for high pressures.

These Separators will deliver exhaust steam purified from grease and oil that the steam can be safely used for heating water for boiler feed, dye house and other purposes, or the steam can be used for heating without any fear of the internal surface of the radiating surface becoming rapidly coated with oil and grease which greatly reduces its efficiency.

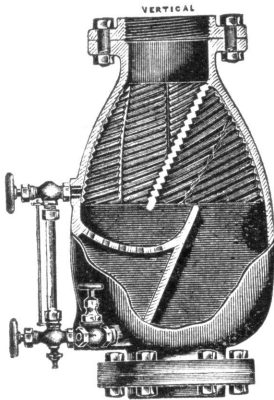


Fig. 315

Standard Steam and Oil Separator

Vertical Pattern

Standard Steam and Oil Separators, Vertical or Horizontal, Price List

Size	Price	Size	Price
1½ inch	\$18 00	5 inch	\$48 00
2 " "	24 00	6 " "	66 00
2½ " "	27 00	7 " "	75 00
3 " "	30 00	8 " "	96 00
3½ " "	36 00	10 " "	132 00
4 " "	42 00	12 " "	150 00
4½ " "	45 00		

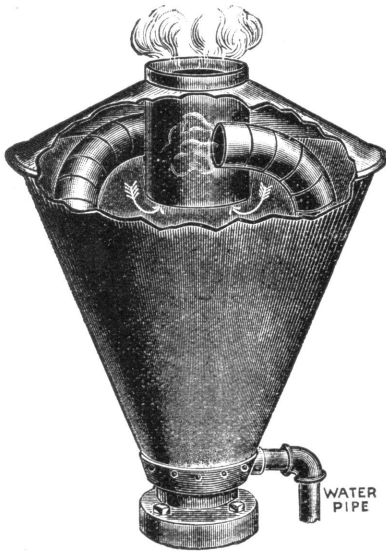


Fig. 316

Centrifugal Exhaust Head

Our Centrifugal Exhaust Head is a valuable and necessary addition to any steam plant. It effectually prevents the escape of moisture and oil from the exhaust pipe, with its consequents and unavoidable injury to the roof and all parts of the building upon which it would fall.

Care should be taken to keep the drain pipe clear of obstructions at all times, so that the waste water, oil, etc., may pass off freely. If the drain pipe is allowed to become clogged, the waste will accumulate until it fills up to the head, when the force of the exhaust will blow it out through the head.

Sizes from 2 inches to 10 inches, inclusive, are supplied with companion flanges screwed for wrought iron pipe unless otherwise ordered.

Sizes over 10 inches are flanged but have no companion flanges unless specially ordered and for which an extra charge will be made.

Price List of Centrifugal Exhaust Heads

2 inches and under...\$20 00	6 inches.....\$ 60 00	18 inches.....\$ 300 00
2½ " 25 00	7 " 75 00	20 " 360 00
3 " 30 00	8 " 90 00	22 " 450 00
3½ " 30 00	10 " 125 00	24 " 600 00
4 " 40 00	12 " 150 00	30 " 900 00
4½ " 40 00	14 " 200 00	36 " 1200 00
5 " 50 00	16 " 250 00	

WRITE FOR DISCOUNTS

Cast Iron Exhaust Head



Fig. 317

This cast iron exhaust head is simple in construction, and positive in its operation. It is comparatively light in weight, small in size, and will last a life time.

The steam enters its lower end, and is discharged from the top, freed from oil and water. The water and oil are separated by centrifugal force, the steam being made to gyrate rapidly on entering the chamber. The water is in this way thrown to the outer wall of the head, where it trickles down, and flows away through the pipe provided.

This exhaust head, besides being ornamental, effectually prevents the escape of drops of water and oil with the exhaust steam, with its consequent and unavoidable injury to the roof and all parts of the building on which it would fall. The 2" head is screwed—all other sizes are flanged, and all sizes 16" and smaller are provided with companion flanges, without extra charge.

Price List

Size Exhaust Pipe in inches	Weight in lbs.	Price List
2	40	25 00
2½	50	25 00
3	50	30 00
3½	85	35 00
4	85	40 00
4½	135	45 00
5	135	50 00
6	165	60 00
7	235	75 00
8	300	90 00
10	350	125 00
12	500	150 00
14	770	200 00
16	1040	250 00
18	1275	300 00
20	1600	360 00
22	2000	450 00
24	2500	600 00
30	4800	900 00
36	6800	1200 00

WRITE FOR DISCOUNTS

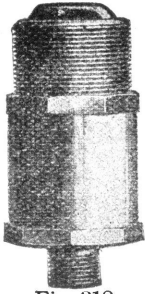


Fig. 318

The "Philadelphia" Grease Cup

Automatic application of grease to the bearings without the use of spring compression

Nature supplies the Feeding Force in the Form of Compressed Air

The combination of the "Philadelphia" Cup and any good cup grease on the market insures satisfactory lubrication with a saving of at least 50 per cent. over any other system. That is our guarantee, and thousands of our cups in daily operation are more than "making good".

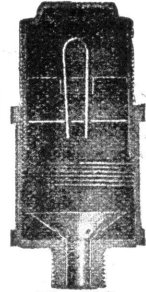


Fig. 318a

PRICE LIST

Capacity		1/2 oz.	1 oz.	3 oz.	6 oz.	9 oz.
Steel, Plain,	each	\$0.95	\$1.15	\$1.50	\$1.75	\$2.05
" Pol'sh'd or Nick.-Pl'td "		1.20	1.60	2.00	3.00	4.30
Shanks, pipe thread		1/4 in.	3/8 in.	1/2 in.	3/4 in.	3/4 in.
Diameter across base		1 1/4 "	1 3/4 "	2 1/4 "	2 3/4 "	3 1/4 "

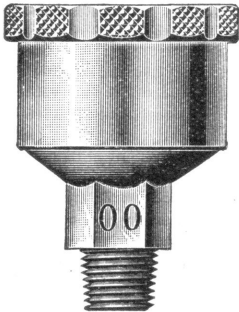


Fig. 319

Steel "EMPRESS" Plain Compression Grease Cups

Stronger, neater and cheaper than Cast Iron

When no finish is mentioned, orders for Steel Cups will be filled with Blued Steel

List Prices of Steel Grease Cups

Number		00	0	1	2	3	4
Inside Diameter	inch	1	1 1/4	1 1/2	2	2 1/2	3
Shank, pipe thread	"	1/8	1/4	1/4	3/8	1/2	1/2
Capacity, grease	ounce	1/2	3/4	1	2	3 1/2	5
Blued Steel	each	\$0.65	0.80	0.95	1.25	1.75	2.50
Rough "	"	\$0.50	0.65	0.80	1.05	1.45	2.00

"SATURN"

Plain Compression Grease Cup

Made of good steam metal and will not rust or corrode.

Very serviceable and highly recommended for engine builders and large users of plain grease cups.

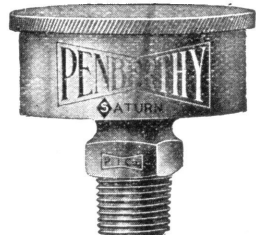


Fig. 320

PRICE LIST

Size Number		950	951	952	953	954	955
Outside Diameter	inches	1 1/8	1 3/8	1 1/2	2	2 3/4	3 1/4
Pipe Thread	"	1/8	1/4	1/4	3/8	1/2	1/2
Capacity	ounces	1/4	3/8	1	2	3 1/2	5
Price, plain brass, not polish'd	each	\$0.55	75	95	1.25	1.70	2.30
" finished "	"	\$0.70	90	1.15	1.50	2.15	2.90
" nickel plated	"	\$0.80	1.05	1.35	1.80	2.60	3.40

Specify size number and name of cup

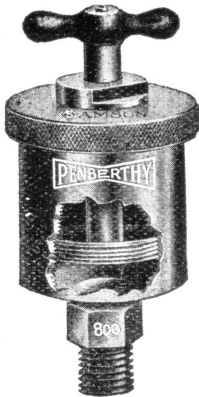


Fig. 321

“SAMSON”

Positive Screw Compression Feed Grease Cup

A well put up, substantial brass grease cup, which will stand any amount of hard usage; made of best steam metal, highly polished.

PRICE LIST

Size Number	800	801	802	803	804	805	806	807
Inside Diameter	in. 1	1¼	1½	1¾	2	2¼	2½	3
Ex. Outside Diam,	“ 1¾	1⅝	1⅞	2⅞	2½	2¾	3⅞	3⅝
H'g't over all, Pl'g'r rsd	“ 4	4¾	5½	6	6¾	7	7½	8⅞
Pipe Thread of Shank	“ ⅞	¼	¼	⅜	⅜	½	½	½
Capacity	oz. ⅓	1	1½	2¼	3¼	4¾	6	10
Price, Brass Finish,	each \$1.00	1.20	1.60	1.80	2.00	2.40	2.80	4.00
“ Nickel Plated	“ \$1.20	1.45	1.90	2.10	2.40	2.90	3.40	4.75

Specify size number and name of cup



Fig. 322

“SILEX”

Spring Compression Automatic Feed Grease Cup

This Silex is a self-feeding grease cup, and highly recommended for traction engine use. It is fitted with leather plunger and spring sufficiently strong to feed the heaviest grease. Feed regulated by means of screw in shank.

PRICE LIST

Size Number	900	900½	901	902	903	904	905	906	907
Inside Diam.	inches 1	1⅞	1¼	1½	1¾	2	2¼	2½	3
Extreme Outside Dia.	“ 1¾	1½	1⅞	1⅞	2⅞	2½	2¾	3⅞	3⅝
Height over all, Plunger raised	inches	4½	4¾	5⅞	6⅞	6⅞	7	7½	8⅞
Pipe T.lead of Shank	“ ⅞	¼	¼	¼	⅜	⅜	½	½	½
Capacity	ounces ⅓	¾	1	1½	2¼	3¼	4¾	6	10
Price, Brass Finish	each \$1.50	1.75	2.00	2.50	2.85	3.20	3.75	4.30	6.00
Price, Nickel Plated	“ \$1.75	2.00	2.25	2.80	3.20	3.60	4.40	5.00	6.75

Specify size number and name of cup.



Fig. 323

“SCREW TOP” Plain Brass Oil Cup

with or without Syphon

This cup is made of the best steam metal, highly polished and perfect in every way; furnished with or without syphon. In ordering, specify whether **With or Without Syphon**

PRICE LIST

Size Number		0	1	2	3	4	5	6	8
Diameter of Body	inches	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Size Shank	“	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Price, without syph'n, Pol. Brass		\$0.30	0.35	0.40	0.50	0.60	0.90	1.25	1.75
“ with “	“ “	\$0.40	45	50	60	70	1.00	1.35	1.85
“ without “	Nckl.-Pl'td	\$0.50	55	65	75	90	1.25	1.65	2.25
“ with “	“ “	\$0.60	65	75	85	1.00	1.35	1.75	2.35

Specify size number and name of cup

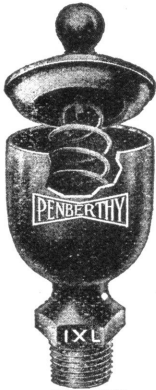


Fig. 324

“SPRING TOP” “IXL” OIL CUP

A self-closing spring cover, the object of which is to provide means for filling cup quickly. The spring holds the cover firmly in place, and no amount of jarring or vibration can loosen it. Specially adapted for traction and portable engines

PRICE LIST

Size Number		0	0-X	1	2	2-X	3	4	5
Diameter of Body	inches	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Size Shank	“	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Capacity	ounce	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{1}{2}$	$3\frac{1}{4}$
Price, Rough Brass,	each	\$0.45	55	65	75	90	1.10	1.40	1.80
“ Finished “	“	\$0.50	60	70	85	1.00	1.25	1.60	2.00
“ Nickel Plated	“	\$0.70	80	95	1.10	1.30	1.60	2.00	2.50
Extra Springs,	per doz.	\$1.00	1.10	1.25	1.40	1.55	1.75	2.00	2.25

Specify size number and name of cup

WRITE FOR DISCOUNTS



Fig. 325

“SICO” SNAP-LEVER, SOLID-SHANK OIL CUP

An oiler with solid shank, fitted with snap-lever top. Once regulated to feed desired, and fastened by lock nut, it is only necessary to open or shut off feed by snap-lever top. A cup that will commend itself to engineers.

PRICE LIST

Size Number	360	361	362	363	364	365	366	367
Outside Diam. of Glass, in.	1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass	1⅛	1¾	1½	1¾	2⅛	2¾	3	4
Capacity oz.	⅝	1	1¼	2¼	4	5	10	18
Pipe Thread of Shank, in.	⅛	¼	¼	⅜	⅜	½	½	½
Price, Brass Finish, each	\$1.75	2.00	2.50	3.00	3.90	4.75	7.00	9.80
“ Nickel Plated “	\$2.00	2.30	2.75	3.30	4.20	5.05	7.40	10.30
Extra Glasses each	\$0.08	10	11	12	15	25	40	65
“ Washers doz.	\$0.12	18	24	30	36	42	52	64

Specify size number and name of cup

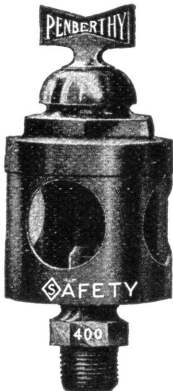


Fig. 326

“SAFETY IMPROVED” Crank-Pin Plunger Oil Cup

With Double Feed and Automatic Shut-off

For high-speed engines we recommend the Locomotive style, as the shank coming directly from the bottom of the cup makes it much stronger when screwed into place. For medium or slow speed engines we recommend our regular style.



Fig. 327

PRICE LIST I

Exterior View Regular Style

Exterior View Locomotive Style

Size Number	L-400	L-401	L-402	L-403	L-404	L-405
Outside Diam. of Glass in.	1¼	1½	1¾	2	2¼	2½
Height of Glass	1⅛	1¾	1½	1¾	2⅛	2¾
Capacity oz.	⅝	1	1¼	2¼	4	5
Pipe Thread of Shank in.	¼	¼	⅜	⅜	½	½
Price, Brass Finish, each	\$1.50	1.75	2.00	2.50	3.00	4.00
“ Nickel Plated “	\$1.90	2.20	2.50	3.00	3.60	4.70
Extra Glasses	\$0.08	10	11	12	15	25
“ Washers, net, doz.	\$0.12	18	24	30	36	42

Specify size number and name of cup

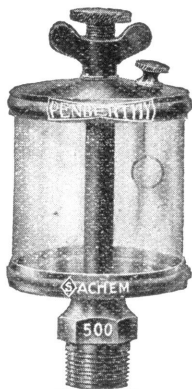


Fig. 328

“SACHEM”

Movable-Bearing Oil Cup

A reliable, non-leakable oil cup, made specially for movable bearings such as eccentrics, slide valves, cross heads, etc. The filler plug, which is secured by a wire to prevent it being lost, can be easily removed for refilling cup. Fitted with feed regulator and lock nut.

PRICE LIST

Size Number		500	501	502	503	504	505
Outside Diameter of Glass	inches	1¼	1½	1¾	2	2¼	2½
Height of Glass	inches	1½	1¾	1½	1¾	2½	2¾
Capacity	ounces	⅝	1	1¼	2¼	4	5
Pipe Thread of Shank		⅛	¼	¼	⅜	⅜	½
Price, Brass Finish	each	\$0.85	1.00	1.25	1.50	2.00	2.50
Price, Nickel Plated	each	\$1.00	1.20	1.50	1.80	2.30	2.80
Extra Glasses	each	08	10	11	12	15	25
Extra Washers, net	dozen	12	18	24	30	36	42

Specify size number and name of Cup

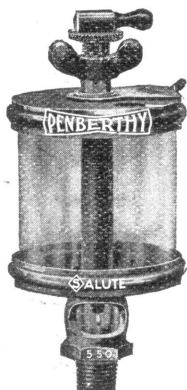


Fig. 329

“SALUTE”

SNAP-LEVER, SIGHT-FEED OIL CUP

A strictly high-grade stationary oiler. Easily filled. Easily regulated. When lever is up cup is feeding, when lever is down feed is shut off. When lever is at 45 angle cup flushes. Cover has good vent, which allows the oil to always feed freely.

PRICE LIST

Size Number		550	551	552	553	554	555	556	557
Outside Diam. of Glass, in.		1¼	1½	1¾	2	2¼	2½	3	3½
Height of Glass,		1½	1¾	1½	1¾	2½	2¾	3	4
Capacity	oz.	⅝	1	1¼	2¼	4	5	10	18
Pipe Thread of Shank, in.		⅛	¼	¼	⅜	⅜	½	½	½
Price, Brass Finish,	each	\$3.00	3.25	3.50	3.75	4.25	5.25	7.25	9.25
“ Nickel Plated	“	\$3.50	3.75	4.00	4.25	4.75	5.75	8.00	10.25
Extra Glasses,	“	\$0.08	10	11	12	15	25	40	65
“ Washers, net, doz.		\$0.12	18	24	30	36	42	52	64

Specify size number and name of cup

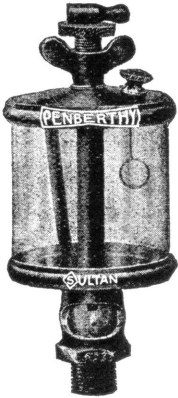


Fig. 330

“SULTAN” Gas Engine Cylinder Oil Cup

This cup is specially designed for use on Gas and Gasoline Engine cylinders, where there is a continual back pressure. It is packed securely both around the regulating stem and at the top and bottom of body and sight-feed glasses, and will not leak. The shank is fitted with a ball check valve which prevents the back pressure from entering the sight-feed chamber, and, at the same time, allows the oil to pass down into cylinder of the engine. It is fitted with our latest design of filler plug, lock nut and snap lever.

PRICE LIST

Size Number	652	653	654	655	656	657
Outside Diameter of Glass...inches	1¾	2	2¼	2½	3	3½
Height of Glass.....inches	1½	1¾	2½	2¾	3	4
Capacity.....ounces	1¼	2½	4	5	10	18
Pipe Thread of Shank.....inches	¼	¾	¾	½	½	½
Price, Brass Finish..... each	\$2.00	2.80	3.50	4.00	5.00	6.00
Price, Nickel Plated each	\$2.40	3.25	4.10	4.60	5.85	7.20
Extra Glasses each	11	12	15	25	.40	65
Extra Washers, net..... dozen	24	30	36	42	52	64

Specify size number and name of cup.

THE “DETROIT” ELBOW SHANK OILERS

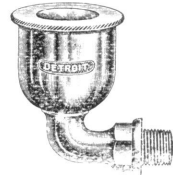


Fig. 331

Price List

Number	122	123	124	125	126	127	128	129
Diam. of Body inches	¾	1	1¼	1½	1¾	2	2¼	2½
Pipe Thread “	⅝	¼	¼	¾	¾	½	½	½
Price, Brass, each	\$0.50	70	1.00	1.40	1.85	2.30	3.00	4.00
“ Nickel, “	\$0.65	85	1.15	1.55	2.00	2.45	3.20	4.20



332

STYLE “B” OIL CUP

List of Sizes, Threads, Prices, Etc.

on next page

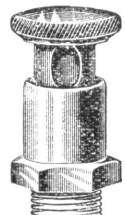


Fig. 332a
Open View

STYLE "B" OIL CUP - Continued

No.	Stock Thread		Optional Pipe Thread	Diam. of Hex.	Diam. of Cap	Price per 100 Nickeled
	Diam.	Pitch				
1	¼ in.	32	.....	⅜ in.	⅛ in.	\$7 00
2	⅝ " "	32	.....	⅜ "	⅞ "	9 50
3	⅜ "	24	.....	⅞ "	½ "	10 70
4	⅞ "	24	⅛	½ "	⅝ "	12 50
5	½ "	24	⅛	⅝ "	¾ "	16 00
	½ "	24	⅛ or ¼	¾ "	⅞ "	22 00
7	¼ "	Pipe	⅛	⅞ "	1 "	30 00
8	¼ "	Pipe	⅛ or ⅜	1 "	1 ⅛ "	38 00



Fig. 333

STYLE "N" OIL CUP

List of Sizes, Threads, Prices, Etc.

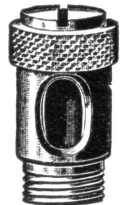


Fig. 333a
Open View

No.	Stock Thread		Optional Pipe Thread	Diameter of Cap	Price per 100 Nickeled
	Diam.	Pitch			
1	¼ in.	32	.....	⅜ in.	\$7 00
2	⅝ " "	32	.....	⅞ "	9 50
3	⅜ "	24	.....	½ "	10 70
4	⅞ "	24	⅛	⅝ "	12 50
5	½ "	24	¼	⅝ "	16 00

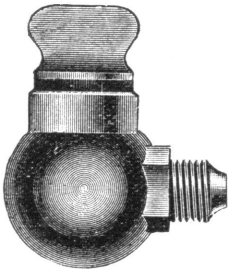


Fig. 334

LOOSE PULLEY OILERS

Price List

Size, Inches	1	1¼	1½	2
Price, Each	\$0.25	.30	.40	.65

WRITE FOR DISCOUNTS

LUBRICATORS

Polished Brass

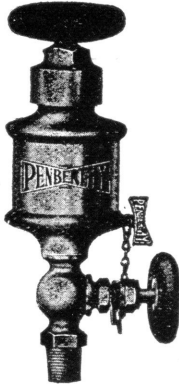


Fig. 335

Fitted with Wood or Iron Wheels. With or without Cock and Tube.

Unless otherwise specified, these Lubricators will be fitted with Wood Wheels and with Cock and Tube.

This Lubricator is made from heavy castings and is strong and durable. The filler end of the oil body is made with a square thread, and when the filler plug, the seat of which is made of soft metal, is screwed down in place it makes a very tight connection, insuring both strength and safety on high pressures.



Fig. 336

The drain and regulating valve seats are carefully ground tight to guard against leakage.

These lubricators are particularly recommended for use on traction and stationary engines and steam pumps, and we guarantee them to give perfect satisfaction.

PRICE LIST

Size Number		1	2	3	4	5	6
Pipe Thread	inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$
Capacity	ounces	$1\frac{1}{4}$	$1\frac{1}{2}$	$2\frac{1}{2}$	$\frac{4}{4}$	$\frac{5}{5}$	10
Diameter	inches	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3
Plain, without Cock & Tube, each		\$2.40	2.60	2.90	3.25	3.75	4.75
Fitted with " " "		\$3.40	3.60	3.90	4.25	4.75	5.75

PLAIN CYLINDER LUBRICATORS

Steam Chest Oilers

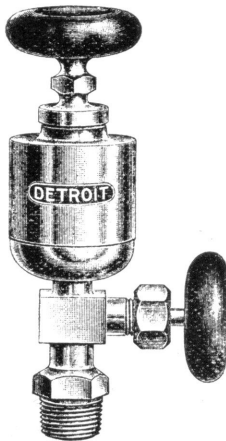


Fig. 337

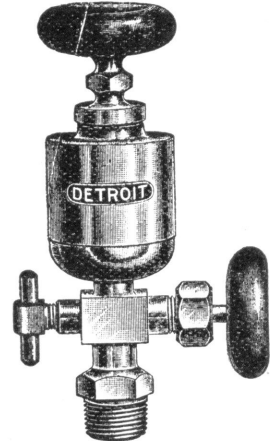


Fig. 338

PRICE LIST WITHOUT DRAIN STEM

Number		80	81	82	83	84	85	86	87	88
Diameter	inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Pipe Thread	"	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
Price without tube or drain		\$2.00	2.20	2.40	2.60	2.90	3.25	3.75	4.75	7.00

PRICE LIST WITH DRAIN STEM

Number		90	91	92	93	94	95	96	97	98
Diameter	inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Pipe Thread	"	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
Price with tube and drain		\$3.00	3.20	3.40	3.60	3.90	4.25	4.75	5.75	8.00

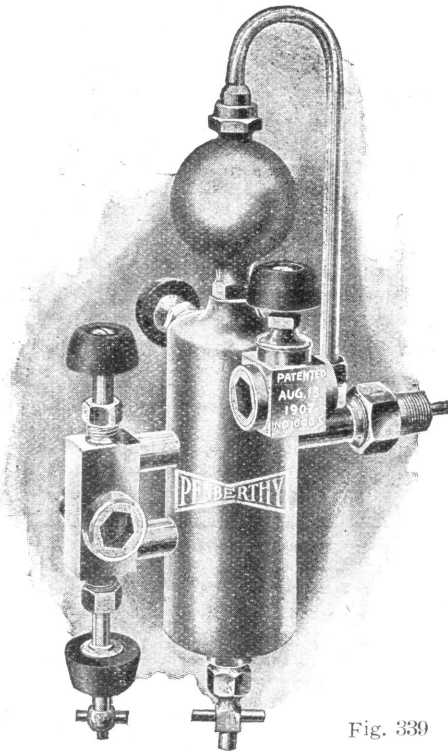


Fig. 330

Sight-Feed Double Connection Steam Lubricator

FOR STATIONARY ENGINES

This Lubricator is designed on exactly the same lines as our single connection and contains the same improvements, namely, combination gage glass and filler, and combination regulating valve and drain. It will be noticed that in both of these Lubricators that the shape and position of the sight-feed and gage glasses afford less chances of being broken, a feature that all engineers will appreciate.

Sight-Feed Single Connection Steam Lubricator

For Traction Engines, Portable Engines, Steam Pumps, Etc.

This Lubricator has been specially designed for use of high-grade engines, and we claim for it the following advantages over the ordinary steam lubricator.

First.—A combination gage glass and filler which is provided with a vent. This enables the cup to be filled quickly and without waste of oil.

Second.—A combination regulating valve and drain cock, each entirely independent of the other so far as the operating is concerned, but both combined in the one stem. Does away with an extra valve.

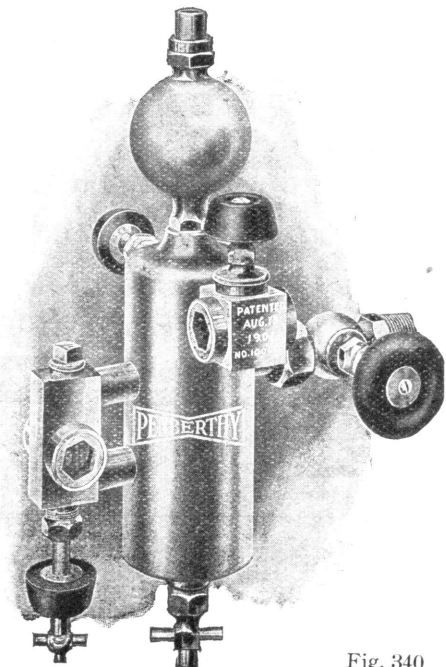


Fig. 340

Sight-Feed Steam Lubricator - Cont.

PRICE LIST

Capacity	¼ Pint	⅓ Pint	½ Pint	1 Pint	1 Quart
Brass Finish, Double Con't'n		\$17 00	20 00	26 75	35 00
Nickel Plated " "		\$20 00	23 00	31 75	40 00
Brass Finish, Single Con't'n	\$16 75	17 50	20 00	26 75	36 25
Nickel Plated " "	\$19 75	20 50	23 00	31 75	41 25
Pipe Thread	½-inch	½-inch	½-inch	½-inch	½-inch

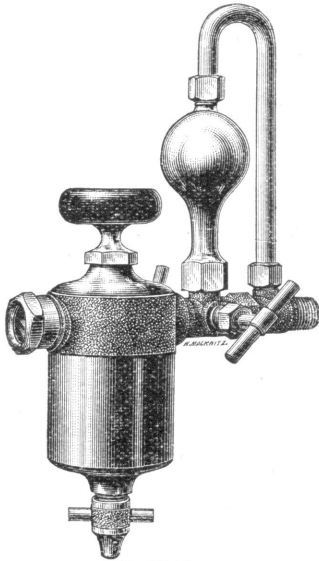


Fig. 341

**THE "SWIFT"
SIGHT-FEED LUBRICATOR**

Single Connection

CLASS F.S.C.

Price List

Capacity	¼Pt.	⅓Pt.	½Pt.	1Pt.	1½Pt.	1Qt.
Brass Finish	\$3.50	3.75	4.00	6.00	6.75	7.50
Nickel Plated	\$3.90	4.15	4.40	6.65	7.40	8.15
Pipe Thread in.	⅜	⅜	⅜	½	½	½

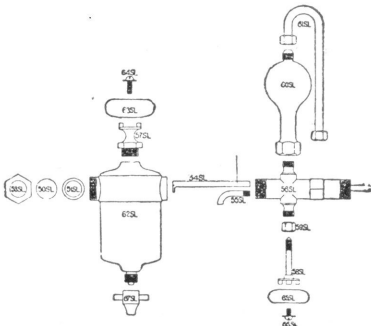


Fig. 342

REPAIRS

**For "Swift" Single Connection
Lubricators**

CLASS F.S.C.

The numbers in cut indicate the part, and should be used in ordering, also be sure and give the **Size** of lubricator for which repairs are desired, and also the **Shop Number**

See Price List next page

WRITE FOR DISCOUNTS

"Swift" Lubricator Repairs - Cont.

FOR ¼, ⅓ and ½ PINT	
No. 50SL. Glasses and Gaskets, No. 2, Per doz.	\$.60
" 51SL. Gaskets for Glass No. 2, doz.	.10
" 53SL. Sight-Feed Nut	.15
" 54SL. Sight-Feed Tube	.20
" 55SL. Oil Outlet Bent Tube	.10
" 56SL. Single Connection Shank	1.00
" 57, 63, 64SL. Filling Plug Com.	.40
" 58, 59, 65, 66SL. Reg. Valve	.30
" 60SL. Brass Condenser	.75
" 61SL. Copper Equalizing Tube	.25
" 62SL. Oil Reservoir, ¼ Pint	1.00
" 62SL. Oil Reservoir, ⅓ Pint	1.25
" 62SL. Oil Reservoir, ½ Pint	1.75
" 67SL. Drain Cock	.20
" 63SL., 65SL. Wood Wheels, each	.10
" 64SL. 66SL. Brass Washer and Screw	.05
Angle Connection Elbow (not shown in cut) Class J.	.25
Union Nut and Tail Piece for Class H. and J.	.50

FOR PINT, 1½ PINT and QUART	
Glasses and Gaskets, No. 3, doz.	\$.75
Gaskets for Glass, No. 3, doz.	.10
Sight-Feed Nut	.20
Sight-Feed Tube	.25
Oil Outlet Bent Tube	.10
Single Connection Shank	1.50
Filling Plug Complete	.50
Regulating Valve Complete	.40
Brass Condenser	1.00
Copper Equalizing Tube	.30
One Pint	2.75
One and one-half Pint	3.25
One Quart	4.50
Drain Cock	.20
Wood Wheels, each	.10
Brass Washer and Screw	.05
Angle Connection Elbow	.30
Union Nut and Tail Piece	.50

Please note that No. 2 Sight-Feed Glasses are about $\frac{7}{8}$ inch in diameter and fit all size lubricators from $\frac{1}{8}$ pt. to $\frac{1}{2}$ pt. inclusive. No. 3 Sight-Feed Glasses are about 1 inch in diameter, and fit all 1 pt., $1\frac{1}{2}$ pt. and quart lubricators.

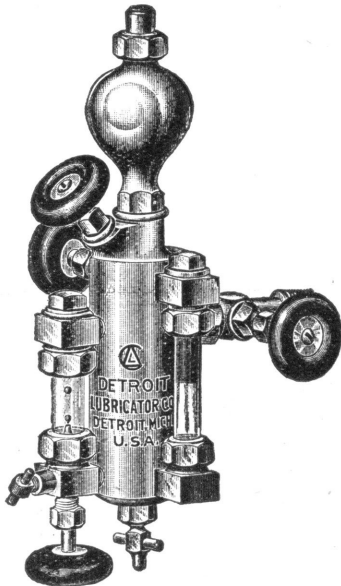


FIG. 343

THE "DETROIT" IMPROVED STANDARD LUBRICATOR

FOR STATIONARY
ENGINES

PRICE LIST

Size For Cylinder	⅓ Pt. Under 10 in.	½ Pt. 10 to 12	1 Pt. 12 to 18	1 Qt. 18 to 30	½ Gal. 30 & over	1 Gal.
Price, Brass Finish	\$17.00	22.00	30.00	45.00	60.00	75.00
" Nickel "	\$20.00	25.00	35.00	50.00	65.00	80.00
Pipe Thrd on support arm in.	½	½	½	½	¾	¾

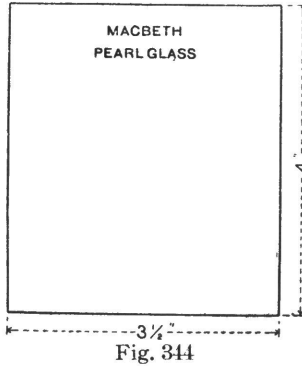
The "Detroit" Lubricator - Cont.

Sizes of Glasses used

Sight-Feed Gauge	$\frac{5}{8} \times 2\frac{1}{8}$	$\frac{3}{4} \times 3$	$\frac{3}{4} \times 3$	$\frac{3}{4} \times 3\frac{1}{4}$	$\frac{3}{4} \times 3\frac{1}{4}$	$\frac{3}{4} \times 3\frac{1}{4}$
	$\frac{5}{8} \times 2\frac{1}{8}$	$\frac{5}{8} \times 3\frac{1}{4}$	$\frac{5}{8} \times 4\frac{3}{8}$	$\frac{5}{8} \times 4\frac{3}{8}$	$\frac{3}{4} \times 6$	$\frac{3}{4} \times 7\frac{3}{4}$

Diam.	Length	Per doz.
$\frac{7}{8}$	by 1	\$1.20
1	" $\frac{7}{8}$	1.50
$1\frac{1}{8}$	" 1	1.50
$1\frac{1}{4}$	" 1	1.56
$1\frac{1}{4}$	" $1\frac{1}{8}$	1.56
$1\frac{3}{8}$	" $1\frac{1}{4}$	1.74
$1\frac{3}{8}$	" $1\frac{5}{8}$	1.98
$1\frac{1}{2}$	" $1\frac{1}{4}$	1.80
$1\frac{1}{2}$	" $1\frac{3}{8}$	1.80
$1\frac{5}{8}$	" $1\frac{3}{8}$	1.98
$1\frac{3}{4}$	" $1\frac{1}{2}$	1.98
$1\frac{3}{4}$	" $1\frac{5}{8}$	1.98
$1\frac{7}{8}$	" $1\frac{3}{4}$	2.04
2	" $1\frac{3}{4}$	2.10
2	" $1\frac{7}{8}$	2.16
$2\frac{1}{8}$	" 2	2.28
$2\frac{1}{4}$	" $2\frac{1}{8}$	2.52
$2\frac{1}{4}$	" $2\frac{1}{2}$	2.58
$2\frac{3}{8}$	" $2\frac{1}{8}$	2.58
$2\frac{3}{8}$	" $2\frac{1}{4}$	2.64
$2\frac{3}{8}$	" $2\frac{3}{8}$	2.70
$2\frac{1}{2}$	" $2\frac{1}{4}$	2.58
$2\frac{1}{2}$	" $2\frac{3}{8}$	2.70
$2\frac{1}{2}$	" $2\frac{1}{2}$	2.76
$2\frac{1}{2}$	" $2\frac{5}{8}$	2.82
$2\frac{1}{2}$	" $2\frac{3}{4}$	2.82
$2\frac{1}{2}$	" 3	3.60
$2\frac{1}{2}$	" 4	4.50
$2\frac{5}{8}$	" $2\frac{1}{8}$	2.70
$2\frac{5}{8}$	" $3\frac{1}{2}$	5.40
$2\frac{3}{4}$	" $2\frac{1}{2}$	2.82

Lubricator Glasses Price List



Diam.	Length	Per doz.
$2\frac{3}{4}$	" $2\frac{5}{8}$	3.60
$2\frac{7}{8}$	" $2\frac{3}{4}$	3.90
3	" $2\frac{3}{4}$	4.20
3	" $2\frac{7}{8}$	4.32
3	" 3	4.32
3	" 4	5.40
$3\frac{1}{8}$	" $2\frac{7}{8}$	4.32
$3\frac{1}{8}$	" $3\frac{5}{8}$	5.28
$3\frac{1}{2}$	" $3\frac{1}{2}$	5.94
$3\frac{1}{2}$	" 4	6.00
$3\frac{1}{2}$	" $4\frac{1}{2}$	7.50
$3\frac{1}{2}$	" 5	9.00
$3\frac{1}{2}$	" 6	14.40
4	" 4	9.00
4	" $4\frac{1}{4}$	9.72
4	" $4\frac{1}{2}$	10.50
4	" $4\frac{3}{4}$	11.22
4	" 5	12.72
4	" 6	15.00
$4\frac{1}{8}$	" 4	10.44
$4\frac{1}{8}$	" $4\frac{1}{8}$	11.70
$4\frac{1}{8}$	" 5	13.50
$4\frac{1}{8}$	" $5\frac{1}{8}$	15.30
$4\frac{1}{8}$	" 6	16.44
$4\frac{1}{8}$	" 4	12.00
$4\frac{3}{8}$	" 5	15.30
$4\frac{3}{8}$	" 6	19.80
$4\frac{1}{2}$	" $4\frac{1}{2}$	17.40
$4\frac{1}{2}$	" $4\frac{3}{4}$	18.60
$4\frac{1}{2}$	" 5	21.60
$4\frac{1}{2}$	" $5\frac{1}{2}$	24.00
$4\frac{1}{2}$	" 6	28.80

THE "DETROIT" Improved Oil Pumps

With Reversible Shanks

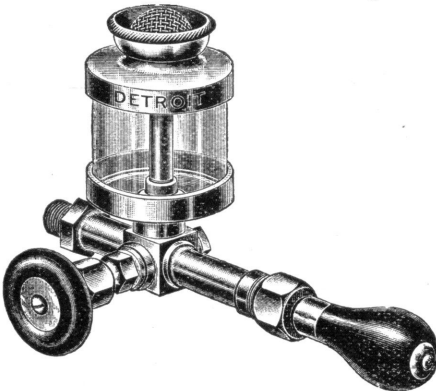


Fig. 345 Glass Body Oil Pump

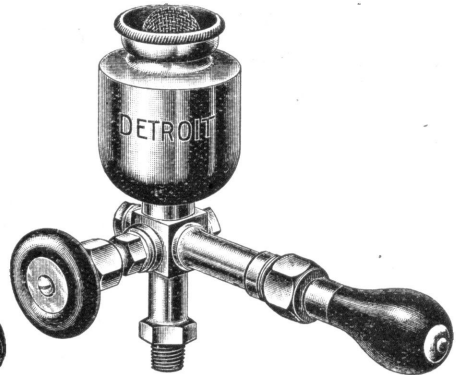


Fig. 346 Brass Body Oil Pump

THE "DETROIT" OIL PUMPS - Continued

Price List

Glass Body Pattern					Brass Body Pattern			
	No. 6A	No. 7A	No. 8A.	No. 9A.	No. 6B	No. 7B	No. 8B	No. 9B
Diameter, inches	2½	3	3½	4 3-16	2½	3	3½	4¼
Height, inches	2¾	3	4	5	2½	3	3½	4½
Capacity	4 oz.	8 oz.	1 pint	1 quart	¼ pt.	½ pt.	1 pt.	1 qt.
Pipe Threads	¾	½	½	½	¾	½	½	½
Brass, price each	\$8.00	8.50	10.00	15.00	\$4.25	5.00	7.50	12.00
Nickel, price each	8.75	9.50	11.00	16.50	4.75	5.75	8.60	13.50
Oil Cp. Glasses, nt. ea.	20	30	40	1.25				
Cork W'h'rs, nt., doz.	30	40	60	1.50				

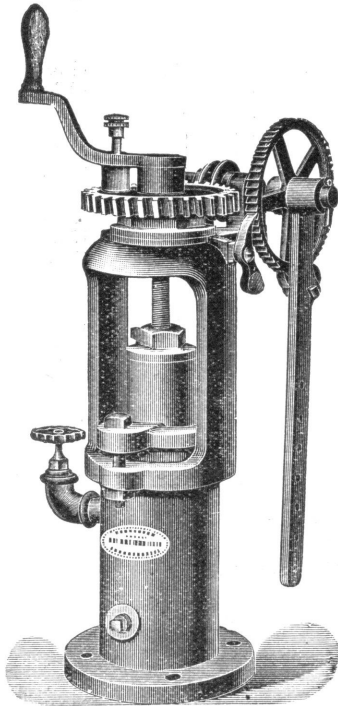


Fig. 347

The Improved 'ACORN' FORCE - FEED Oil Pump

It is automatic in action.

Every stroke of the engine from the start feeds the proper amount of oil. When the engine stops the oil stops feeding.

The "ACORN" FORCE-FEED OIL PUMP is guaranteed to save 50 per cent. in oil. It works perfectly in all temperatures, and feeds all kinds of oil.

Every lubricator is guaranteed to give satisfaction or money refunded.

Give the Improved Oil Pump a trial, and you will use no other.

PRICE \$10.00

WRITE FOR DISCOUNTS

If in want of Second-Hand Refitted Engines, Boilers, Mill and Factory Machinery, Write. Address: Refitted Machinery Dept. We have Largest Stock under British Flag.

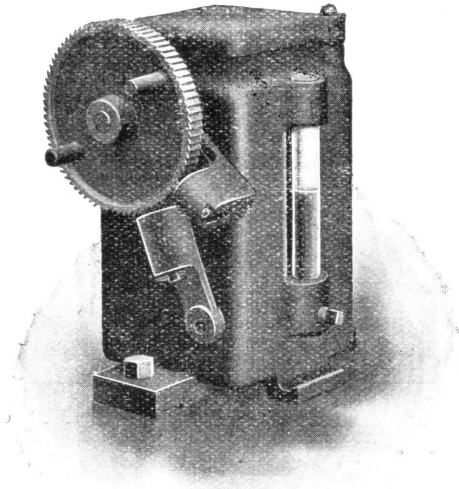


Fig. 348

THE PICKERING FORCE-FEED OIL PUMP

Patent April 9th. 1907,
Others Pending

POSITIVE FEED with
JOINTLESS
CONSTRUCTION

No. 1 SINGLE FEED PUMP, regularly provided with sight gauge and having warming chamber cast in body. When preferred, gauge or warming chamber can be omitted. Equipment includes all necessary fittings for oil connection and a try cock for testing.

We make no openings through oil tank at bottom except for emitting oil to feeds, thus overcoming all possibility of leakage about plates and shaft which will occur when these are located near the bottom of the tank.

Pump pistons are made from fine tool steel, carefully hardened and ground, insuring durability with satisfactory service at all times.

Ratchet has chilled teeth, and pawls are made from tool steel, making them practically indestructible.

All pumps have a hinged cover.

No. 2 DOUBLE FEED PUMP, is so constructed that each cylinder of a Double Engine is supplied independently, otherwise it is similar to No. 1 Pump.

The use of this pump is not confined to Engine cylinders but equally efficient and economical on separators or any machinery where positive lubrication is required.

All Pumps are carefully tested before leaving our works, being subjected to a high pressure, and required to hold that pressure with pump at rest.

PRICES:- No. 1. - \$10.00 No. 2 \$13.00

KAYE'S SEAMLESS OIL CANS

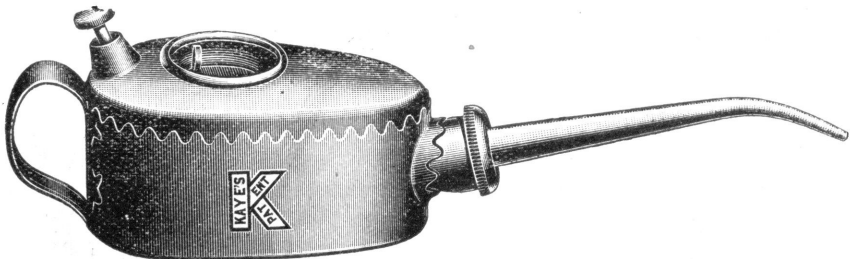


Fig. 349

Kaye's Seamless Oil Cans - cont.

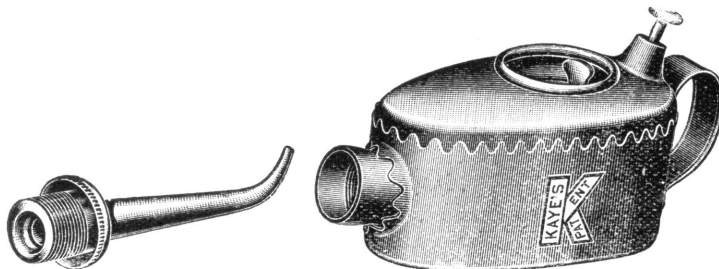


Fig. 349a

PRICE LIST

Number	Kind of Spout	Capacity	Price Each
17	Fast	1/2 Pint	\$0.50
19	"	1 "	75
20	"	1 1/2 "	90
8	Detachable	1/2 "	60
9A	"	1 "	85
10	"	1 1/2 "	1.00

COPPER PLATED STEEL OILERS

PRICE LIST

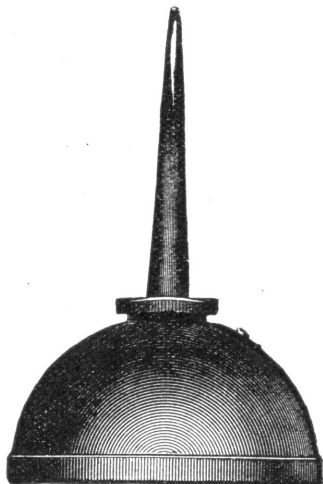


Fig. 350

No. 12.	3 oz.	2 3/4 in. dia.	2 1/2 in. Str'gt	Noz.	\$0.40 ea
" 13	5 "	3 3/8 "	3 "	" "	45 "
" 13A	5 "	3 3/8 "	5 "	" "	50 "
" 14	5 "	3 3/8 "	9 "	Bent	55 "
" 14A	1/2 pt.	3 3/4 "	"	Str'gt	60 "
" 14AA	1/2 "	3 3/4 "	5 "	" "	65 "
" 14B	1/2 "	3 3/4 "	9 "	Bent	70 "
" 15	1 "	4 1/4 "	3 "	Str'gt	75 "
" 15A	1 "	4 1/4 "	5 "	" "	80 "
" 16	1 "	4 1/4 "	9 "	Bent	85 "

ENGINEERS' FILLERS

COPPER PLATED

Price List next page



Fig. 351

Engineers' Fillers - cont.

No. 19.	1 Pint,	Steel Filler,	4 $\frac{1}{8}$ in. Diam.	3 $\frac{1}{2}$ in. high,	Screw Top	\$1.20 each
" 19A	1 $\frac{1}{2}$ "	"	4 $\frac{3}{4}$ " " "	4 " " "	"	1.40 "
" 210	1 Quart	"	5 " " "	5 " " "	"	1.70 "
" 211	2 "	"	6 " " "	6 " " "	"	2.00 "

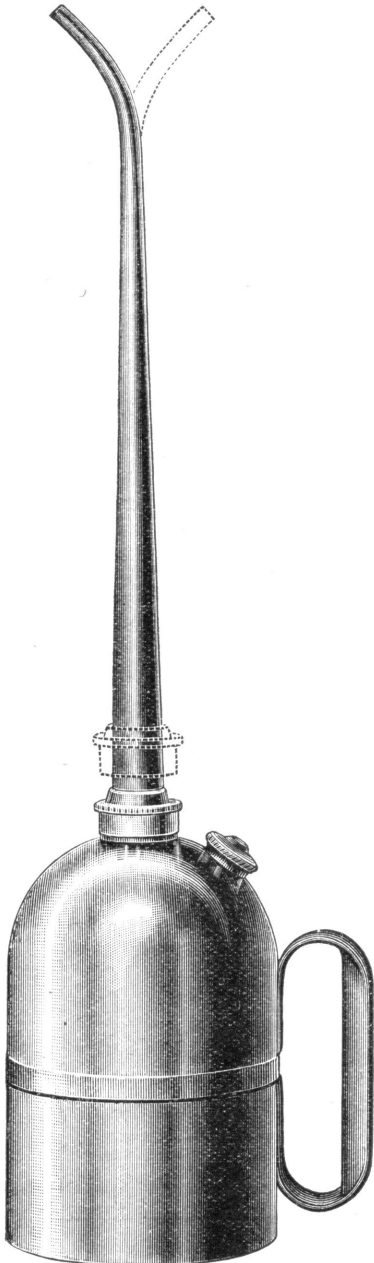


Fig. 352.

RAILROAD OILERS

Copper Plated

- No. 10, 1 Pint, Steel Railroad Oiler, 3 $\frac{3}{8}$ inch diameter, 5 inch high, 12 inch Nozzle, **\$1.20** Each
- No. 11, 1 Quart, Steel Railroad Oiler, 4 $\frac{1}{8}$ in. diameter, 6 inch high, 18 inch Nozzle, **1.50** Each

Brass Railroad Oilers

- No. 17, 1 Pint, Railroad Oiler, 3 $\frac{3}{8}$ inch diameter, 5 inch high, 12 inch Nozzle, **\$1.50** Each
- No. 18, 1 Quart, Railroad Oiler, 4 $\frac{1}{8}$ inch diameter, 6 inch high, 18 inch Nozzle, **1.75** Each
- No. 18A, 2 Quart, Railroad Oiler 5 inch diameter, 8 in. high, 10 or 14 in. Nozzle, **2.00** Each

ENGINEERS' SETS

Copper Plated

With Round Tray

- No. C30, 5 Pieces, Copper Ptd. (and Tray) **\$5.00** Each
- " C40, 6 " " " " " **7.00** Each

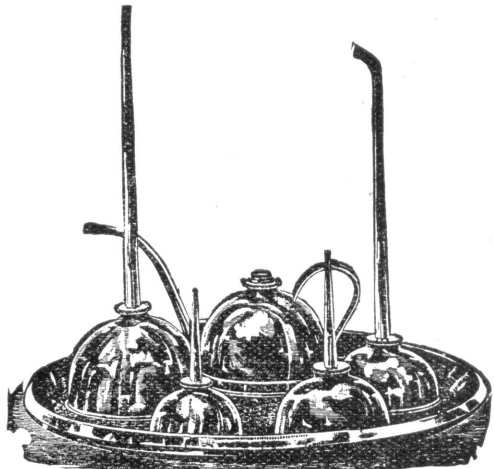


Fig. 353

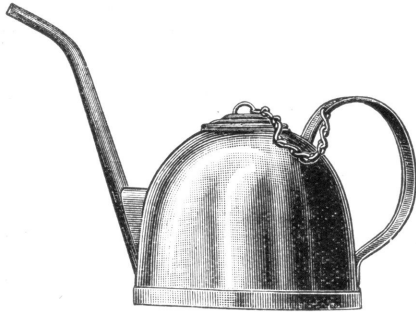


Fig. 354

TALLOW POTS

COPPER PLATED

Price List

No. 212,	1 Quart,	Steel Tallow Pot,	5 in. Diam.	5 in. high,	\$1.75 each
" 213,	2 "	" "	6 " "	6 " "	2.10 "

OILS

HELMET OIL

Price in Tin Cans, per Can

1 b.	3 lbs.	5 lbs.	10 lbs.
\$0.50	1.50	2.25	4.25

Price in Packages of About

28 lb. Pail	60 lb. Tub
\$0.40 per lb.	\$0.39 per lb



Fig. 355

CYLINDER OIL.....	75c. per Gallon
ENGINE OIL.....	50c. per Gallon
BOLT CUTTING OIL.....	80c. per Gallon

BOILER COMPOUND

Best Grade.....	80c. per lb.
-----------------	--------------

BLACK JAPAN

Standard Grade.....	65c. per Gallon
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GREASES

COMPRESSION CUP GREASE.....	15c. per lb.
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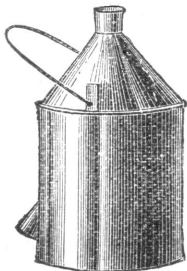


Fig. 356

ROUND OIL CANS

PRICE LIST

Gallons	½	1	2	3	5
Each	\$0.20	0.25	0.40	0.50	0.60

WRITE FOR DISCOUNTS

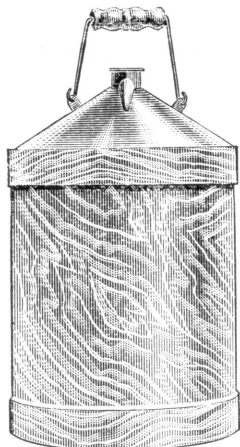


Fig. 357

ROUND OIL CANS

Wooden Jackets

Vent Attachment to Nozzle

PRICE LIST

Gallons	1	2	3	5	10
Each	\$0.35	0.45	0.55	0.65	1.00

OIL CANS

SQUARE

PRICE LIST

Gallons	¼	½	1	2	3	5
Each	\$0.15	0.20	0.25	0.35	0.45	0.60

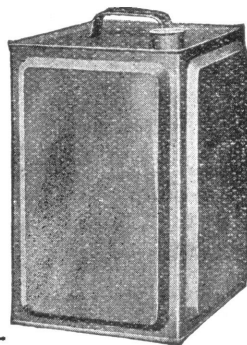


Fig. 358

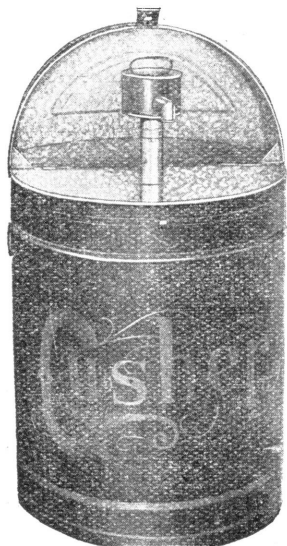


Fig. 359

Gusher Oil Tanks

Beautifully Ornamented and First Class in Every Respect

	½ Bbl.	1 Bbl.	2 Bbls.
Total Capacity, gals.	33	52	90
Capacity of Tray "	20	45	80
Each	\$8.20	9.55	14.55

Gusher Oil Tank Pumps

Each..... \$1.65

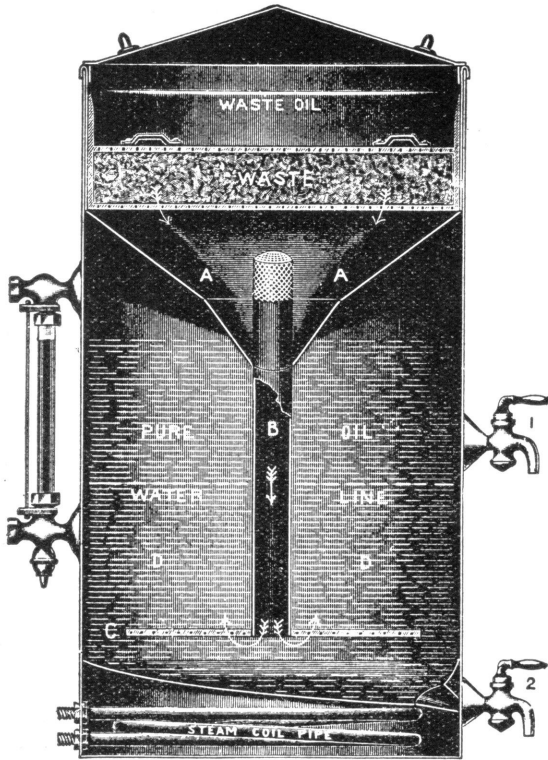


Fig. 360

The Success Oil Filter

Why Waste Oil?

All who use lubricating oils know that only a very small part is really consumed by the machinery; the most of it passes through and becoming mixed with dirt & grit, is thrown away as waste oil. But for these impurities the oil could be used over and over again, as the lubricating quality of the oil is not perceptibly impaired.

Will be sent on trial, to be returned at our expense if not as represented.

PRICE LIST

Size Number	1	2	3	4	5	6
Capacity per day	Gals. 3 - 5	5 - 20	30 - 40	50 - 60	70 - 90	100-120
Price	Each \$23.75	36.25	75.00	93.75	112.50	137.50

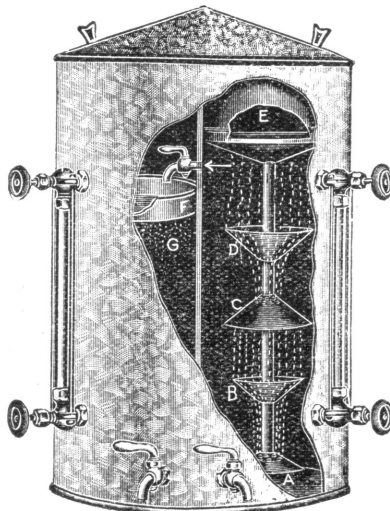


Fig. 361

THE "SIMS" IMPROVED OIL FILTER

This is the OIL FILTER You are looking for if you want the best now on the market

It does the BEST WORK.

It is kept in working order with the least cost.

It can be cleaned with the least labor and loss of time.

The Filtering Capacity depends on the Temperature and Fluidity of the Oil.

Every Filter is provided with a First-Class Radiator, except the No. 00.

We will send you one on 30 days' trial

The "Sims" Improved Oiler - cont.

PRICE LIST

Number	00	0	1	2	3	4
Capacity per day gals.	2-3	3-5	5-10	10-20	20-30	30-50
Price each	\$12.50	18.75	25.00	31.25	43.75	62.50

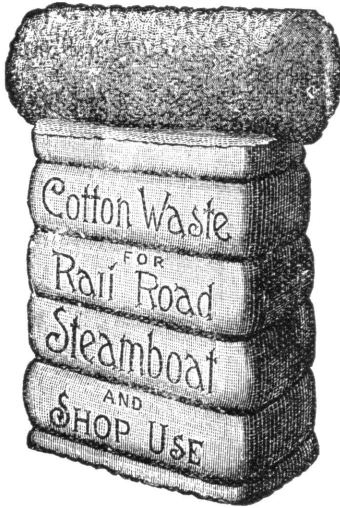


Fig. 362

COTTON WASTE

White and Colored

In bales of about 100, 250 and 500 pounds

Extra White		Extra Colored	
No. 1	"	"A"	"
" 2	"	No. 1	"
Special	"	" 2	"

We carry a large stock and fill orders at Best Market Prices



Fig. 363

OIL WASTE CANS

Self-Closing Spring Covers

Made in one size only,

11¹/₄ x 11¹/₄ price \$1.10 each

WRITE FOR DISCOUNTS .

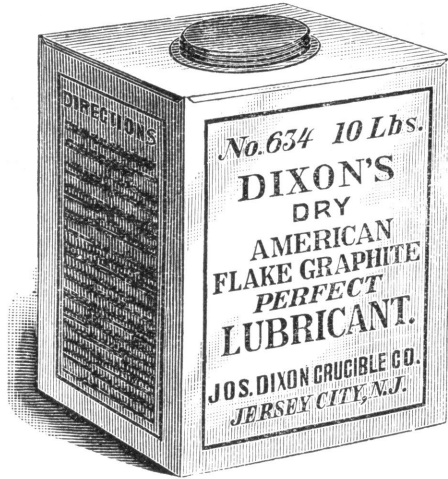


Fig. 364

Dixon's Pure Flake Lubricating Graphite

Trade No. 632: 1 pound Paper Cans, \$0.25 each

" No. 633. 5 pound Tin Cans, Screw top, \$1.20 each

Trade No. 634. 10 pound Tin Cans, Screw top, \$2.25 each

Dixons' Special Graphite No. 635

1 lb. paper cans \$0.50 ea.

5 " Tin " 2.00 "

Can be used dry, or mixed with water, alcohol, benzine, oil or grease, tallow or vaseline, according to requirements

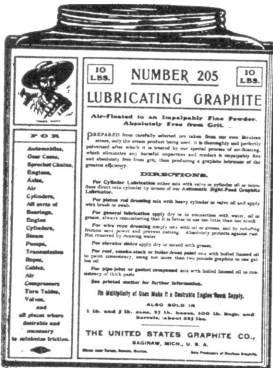


Fig. 365

No. 205 Lubricating Graphite

Can be handily used mixed with linseed oil as a preservative paint for smoke stacks, boiler fronts, etc., or as a joint-compound for pipes, gaskets, etc.

- 1 lb. Patent friction top cans 20c. per can
- 5 " Screw top tin cans 90c. " "
- 10 " " " " " \$1.65 " "
- 25 " Strawboard boxes \$3.00 " box
- Kegs 10c. " lb.
- Barrels about 325 lbs. 9c. " "

PECORA STEEL COLOR MACHINERY PAINT

Flat Finish. IN PASTE FORM

The idea of finishing machinery with flat steel color paints was originated by S. Bowen.

These paints are made in five shades, and special shades to order. Dries quick and hard with a dead, flat surface, gives a smooth, hard finish, and prevents the work from rusting.

How to Apply Pecora Paint

Have the surface free from dust. Thin the Paint with Pecora Paint Thinner or with Turpentine to the consistency of thin cream, and apply with a brush. In order to keep the Paint in good condition keep a little turpentine on top of the Paint.

Put up in 25 lb. Cans. Price per Can, \$3.15

PECORA IRON FILLER

For making Rough Castings Smooth, filling all irregularities, and giving a smooth level and even surface, on which to apply our Steel Color Mineral Paint.

DIRECTIONS FOR USING FILLER

1st. Prime work with Steel Color thinned with Paint Thinner to the consistency of **thin** milk, and let stand until dry and **hard**.

2nd. Put on a coat of Filler with a broad blade knife, having the Filler thin enough to smooth off like plaster.

3rd. Immediately after applying Filler with knife, thin down some Filler with Paint Thinner and smooth off work with a brush.

4th. Let the work stand twelve hours, and rub down with lump pumice stone and water or coarse emery paper. A surface requiring less sand papering can be secured by crossing each alternate coat.

5th. When smooth, work is ready for finishing coats of Steel Color Paint. For hot surfaces, the thinner our Paint is applied the less liable it is to blister.

To keep Filler soft, cover it with water

Put up in 16 lb. Cans.

Price per Can \$2.50

BRUSHES

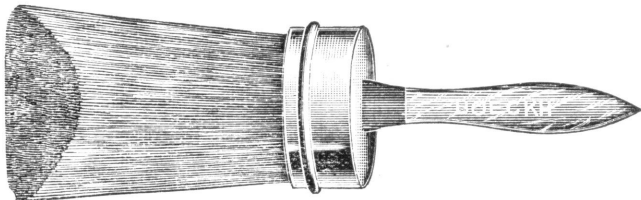


Fig. 306

COLUMBIA WHITE CHISELLED OVAL

Size No. 6-0 \$3.15 Each.

Size No. 8-C \$4.20 Each

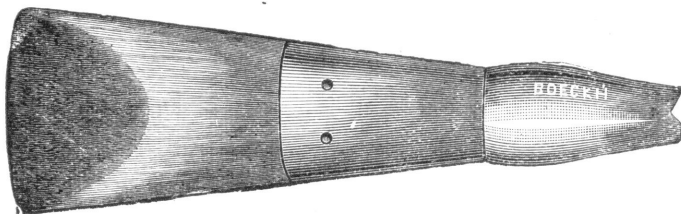


Fig. 367

Tip Top Oval Black Sash Tools

Black, Chiselled, Nickelled Ferrules, Varnished Handles

Size No. 5. 35c. Each.

Size No. 7. 50c. Each.

Size No. 9. 65c. Each

WRITE FOR DISCOUNTS

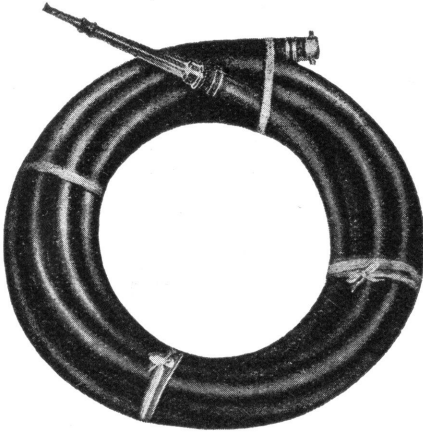


Fig. 368

WATER HOSE

PARA.—Made from a specially woven duck and best rubber stocks.

STAR.—Same as Para, excepting weight

REGAL.—We recommend this as a strong durable Hose.

WESTERN.—Good stout Hose that can be depended upon.

Rubber Garden Hose and Water Hose

Internal Diameter	2-Ply per ft.	3-Ply per ft.	4-Ply per ft.	5-Ply per ft.	6-Ply per ft.
1/2 in.	\$0 20	\$0 25	\$0 30	\$0 37	\$0 45
3/4 "	25	30	37	46	55
1 "	33	40	50	62	75
1 1/4 "	42	50	62	77	93
1 1/2 "	50	60	75	93	1 12
1 3/4 "	58	70	87	1 08	1 30
2 "	66	80	1 00	1 25	1 50
2 1/4 "	75	90	1 12	1 40	1 68
2 1/2 "	83	1 00	1 25	1 56	1 87
2 3/4 "	92	1 10	1 37	1 71	2 05
3 "	99	1 20	1 50	1 87	2 25
3 1/2 "	1 15	1 40	1 75	2 18	2 62
4 "	1 32	1 60	2 00	2 50	3 00
5 "	1 65	2 00	2 50	3 12	3 75
6 "	1 98	2 40	3 00	3 75	4 50
7 "	2 31	2 80	3 50	4 38	5 25
8 "	2 64	3 20	4 00	5 00	6 00
9 "	2 97	3 60	4 50	5 62	6 75
10 "	3 33	4 00	5 00	6 25	7 50

All intermediate sizes are charged at the list price of the next larger sizes, thus 1 1/8 in. will be charged at 1 1/4 in. price, etc.

1/2 in. and 3/4 in. are garden hose sizes.

WRITE FOR DISCOUNTS

If in want of Second-Hand Refitted Engines, Boilers, Mill and Factory Machinery, Write. Address: Refitted Machinery Dept. We have largest stock under british flag

Steam, Brewer's Air, Oil, Acid, Hot Water Hose.

Diameter	3-Ply per ft	4-Ply per ft.	5-Ply per ft.	6-Ply per ft.	7-Ply per ft.	8-Ply per ft.
1/2 in.	\$0 43	\$0 51	\$0 63	\$0 76	\$0 89	\$1 02
3/4 " "	51	67	83	1 00	1 17	1 34
1 " "	67	83	1 03	1 24	1 45	1 66
1 1/4 " "	85	1 04	1 30	1 56	1 82	2 08
1 1/2 " "	1 02	1 25	1 56	1 87	2 18	2 50
1 3/4 " "	1 18	1 45	1 81	2 17	2 53	2 90
2 " "	1 34	1 66	2 07	2 49	2 90	3 32
2 1/4 " "	1 50	1 87	2 33	2 80	3 27	3 74
2 1/2 " "	1 66	2 08	2 60	3 12	3 64	4 16
3 " "	2 00	2 80	3 50	4 20	4 90	5 60
3 1/2 " "	2 33	3 27	4 08	4 90	5 72	6 54
4 " "	2 67	3 73	4 66	5 60	6 53	7 47
4 1/2 " "	3 00	4 20	5 25	6 30	7 35	8 40
5 " "	3 33	4 67	5 83	7 00	8 17	9 34
6 " "	4 00	5 60	7 00	8 40	9 80	11 20

List Prices of Smooth Bore Suction Hose

Internal Diameter	Per Foot	Internal Diameter	Per Foot
2 inches	\$ 2 60	6 1/2 inches	\$12 00
2 1/2 " "	3 50	7 " "	13 50
3 " "	4 50	7 1/2 " "	15 00
3 1/2 " "	5 50	8 " "	16 50
4 " "	6 50	9 " "	19 50
4 1/2 " "	7 50	10 " "	22 50
5 " "	8 50	12 " "	27 50
5 1/2 " "	9 50	15 " "	35 00
6 " "	10 50		

List Prices of Rough Bore Suction Hose

Internal Diameter	Per Foot	Internal Diameter	Per Foot
3/4 inch	\$0 70	5 inch	\$7 60
1 " "	90	5 1/2 " "	8 50
1 1/4 " "	1 15	6 " "	9 50
1 1/2 " "	1 50	6 1/2 " "	10 50
1 3/4 " "	1 90	7 " "	12 00
2 " "	2 30	7 1/2 " "	13 50
2 1/2 " "	3 10	8 " "	15 00
3 " "	4 00	9 " "	17 50
3 1/2 " "	4 90	10 " "	20 00
4 " "	5 80	12 " "	25 00
4 1/2 " "	6 70		

Agricultural Suction Hose

2 inch, per foot \$1.50

WRITE FOR DISCOUNTS

Hard Rubber Suction Hose

STAR.—Made in sizes of 2 in. and under. **REGAL.**—Made in $\frac{1}{2}$, $\frac{3}{4}$, & 1 in. only

PRICE LIST

Internal Diameter	4-Ply per foot	Internal Diameter	4-Ply per foot
$\frac{3}{4}$ inch	\$0 65	$1\frac{3}{4}$ inch	\$1 31
1 " "	75	2 " "	1 50
$1\frac{1}{4}$ " "	93	$2\frac{1}{4}$ " "	1 70
$1\frac{1}{2}$ " "	1 13	$2\frac{1}{2}$ " "	1 88

Important.—In ordering Suction Hose of any kind, be sure to specify whether or not, the ends are to be enlarged for nipples or couplings.

List Prices for Wire-Winding Rubber Hose

Water and Pneumatic Tool Hose, wound with Round Wire

Inch		3-Ply	4-Ply	5-Ply	6-Ply
$\frac{1}{2}$	per foot	\$0 03	\$0 04	\$0 05	\$0 06
$\frac{3}{4}$	"	04	05	06	07
1	"	05	07	08	09
$1\frac{1}{4}$	"	07	08	09	10
$1\frac{1}{2}$	"	08	09	10	11
$1\frac{3}{4}$	"	09	10	11	12
2	"	10	11	12	13
$2\frac{1}{4}$	"	11	12	13	14
$2\frac{1}{2}$	"	12	13	14	15

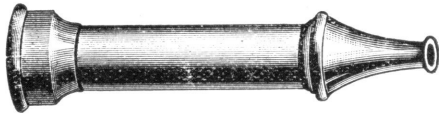
Steam, Brewer's and Air Drill Hose, wound with Round Wire

Inch		3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply
$\frac{1}{2}$	per foot	\$0 06	\$0 07	\$0 08	\$0 09	\$0 10	\$0 11
$\frac{3}{4}$	"	07	08	09	10	11	12
1	"	08	09	10	11	12	13
$1\frac{1}{4}$	"	09	10	11	12	13	14
$1\frac{1}{2}$	"	10	11	12	13	14	15
$1\frac{3}{4}$	"	11	12	13	14	15	16
2	"	13	14	15	16	17	18
$2\frac{1}{4}$	"	15	16	17	18	19	20
$2\frac{1}{2}$	"	17	18	19	20	21	22

Steam, Brewer's, Air Drill and Pneumatic Tool Hose, Wound with Flat Wire.

Inch		3-Ply	4-Ply	5-Ply	6-Ply	7-Ply	8-Ply
$\frac{1}{2}$	per foot	\$0 09	\$0 10	\$0 11	\$0 12	\$0 13	\$0 14
$\frac{3}{4}$	"	11	12	13	14	15	16
1	"	13	14	15	16	17	18
$1\frac{1}{4}$	"	15	16	17	18	19	20
$1\frac{1}{2}$	"	18	19	20	21	22	23
$1\frac{3}{4}$	"	20	21	22	23	24	25
2	"	23	24	25	26	27	28
$2\frac{1}{4}$	"	25	26	27	28	29	30
$2\frac{1}{2}$	"	27	28	29	30	31	32

HOSE GOODS



**PLAIN HOSE
NOZZLES**

Fig. 369. Short Pattern with Solder Tip

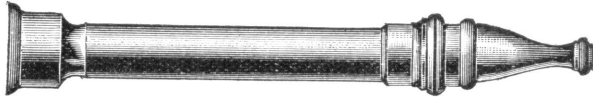
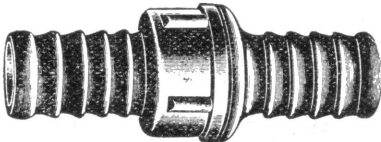


Fig. 370. Long Pattern with Screw Tip

Size of Hose Couplings	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Fig. 369, Length of Short Patt. in.	7	8	$8\frac{1}{2}$	9	11	16
Fig. 370, Length of Long Patt. in.	8	10	12	14	16	20
Short Patt. Finished, price each	\$0.70	.85	1.70	2.10	3.20	6.25
Long " " " "	\$0.85	1.10	2.10	2.50	4.20	7.50



**HOSE
COUPLINGS**

Fig. 371. For Water Hose

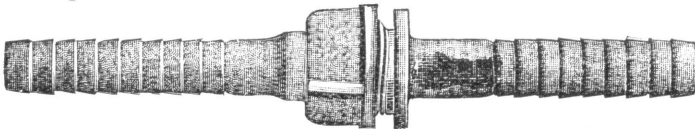
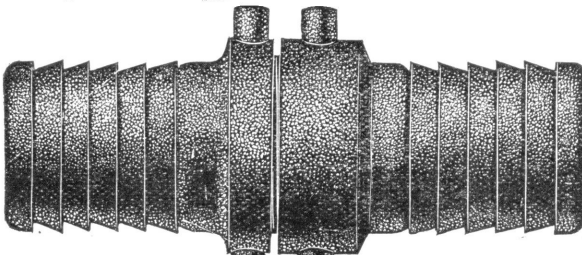


Fig. 372. For Steam Hose

Size of Hose, Inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Fig. 371, Water Hose Coupling, each	\$0.20	.20	.40		
" 372, Steam " " "	\$0.40	.40	.75	1.25	2.00



**HOSE
COUPLING
—
With Lugs**

Fig. 373

HOSE SPLICE

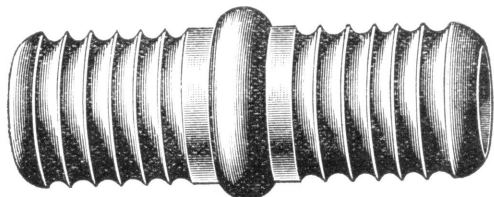


Fig. 374

See Price List next page

Hose Coupling with Lugs and Hose Splice - cont.

Size	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Fig. 373, Hose Coup. St'nd'rd, each				\$0.85	1.20	2.00	4.00	6.35
" 373, " X Heavy, "				\$1.50	2.50	5.00	8.35	
" 374, Hose Splice, Brass "	\$0.20	.20	.35					
" 374, " Bronz'd Iron "	\$0.10	.12	.25					

HOSE NIPPLE

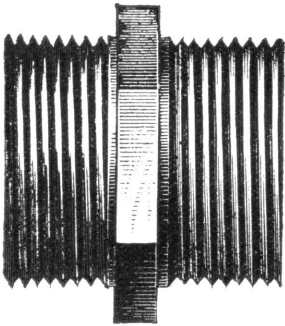


Fig. 375

HOSE REDUCER

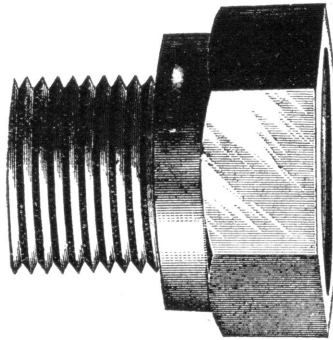


Fig. 376

HOSE CAP

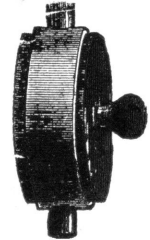


Fig. 377

HOSE WASHERS
Rubber

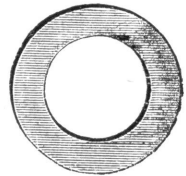


Fig. 378

Size	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Fig. 375, Hose Nipple, Male, each	\$0.30	.30	.45	.75	.85	1.20	2.35	3.35
" 375, " M. & F. "	\$0.30	.30	.45	.75	.85	1.20	2.35	3.35
" 376, Hose Reducer "		\$0.35	.55	.85	1.00	1.50	2.50	
" 377, Hose Cap "		\$0.35	.50	.65	.85	1.25	2.00	
" 378, Rubber Hose Washer "		\$0.05						

Female Section

Male Section

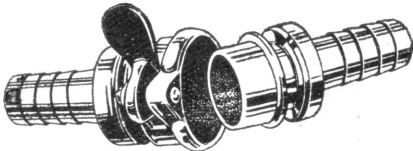
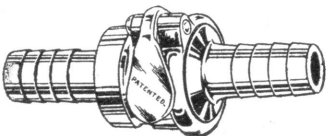


Fig. 379. "Coupler open"

THE TIME SAVING
COUPLER

Made only in 1/2 inch and 3/4 inch sizes



"Coupler closed"
Fig. 379a

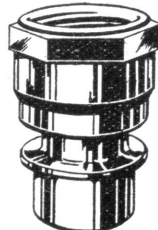


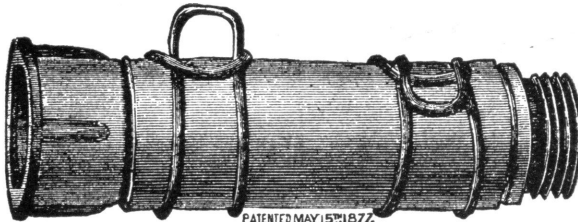
Fig. 379b. Tap Adjuster



Nozzle Adjuster,
Fig. 379c.

The Time Saving Coupler - cont.

Parts	Male Section	Female Section	Tap Adjuster	Nozzle Adjuster	Coupler Complete	Tap Adjuster & Female Section
Price Each	\$0.15	.20	.15	.20	.35	.35



PATENTED MAY 15 1877.

Fig. 398

**CALDWELL'S
HOSE STRAP**

Size of Hose, Inches	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
Length of Strap for 3-ply Hose, inches	3 3/8	4 1/8	5	6	6 3/4	8 1/2	10 1/2
" " " " 4 " "	3 3/4	4 1/2	5 3/8	6 3/8	7 1/8	9	11
Fig. 398, Caldwell's Straps, price each	\$0.05	.07	.09	.10	.12	.15	.20

HOSE STRAP FASTENER

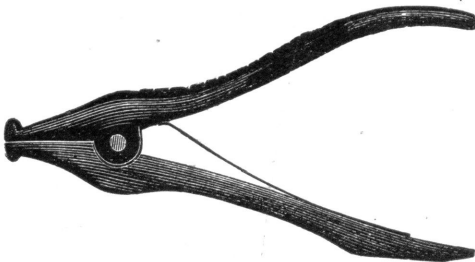
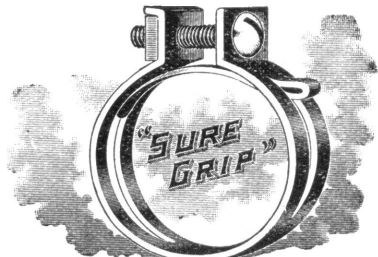


Fig. 399

HOSE CLAMP (Steel "Patent")



U. S. PATENTS.
Nos. 477,237, 480,513, 480,514, 480,515,
613,322 AND CANADIAN PATENT No 44,081.

Fig. 400

Fig. 399, Hose Strap Fastener, No. 1

price each \$0.50

Fig. 400, Patent, Hose Clamps, 3 & 4-ply Hose,	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2
" " " " " each	\$0.10	.10	.15	.20	.25	.35	.60

Taber's Spanner

Malleable Iron,
Galvanized

Price \$0.70 Each

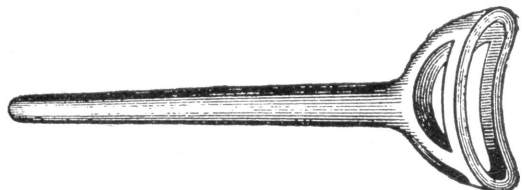


Fig. 401

Fire Department Hose Fittings

The "Swinging" Hose Rack

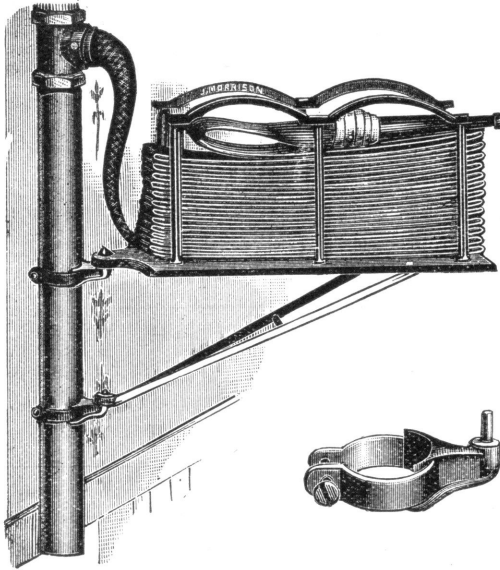


Fig. 402. With Pipe Clamp

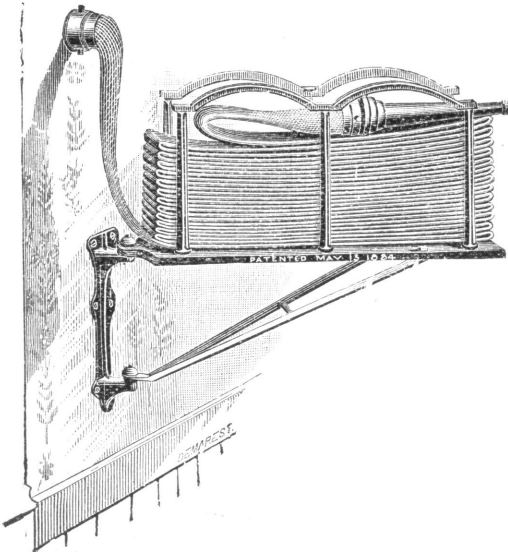


Fig. 403. With Wall Bracket

	0	1	2	3	4	5	6
Number of Rack	18	24	24	24	24	30	30
Length " " Inches	5	6	7	6	6 ³ / ₄	6	7
Width " " "	8	10	10	16	16	19	19
Depth " " "							
Fig. 401, Red Japanned, with Pipe Clamp, price each	\$2.25	2.75	2.75	3.00	3.00	4.00	4.50
" " " " Wall Bracket, "	\$2.05	2.55	2.55	2.80	2.80	3.80	4.30
Capacity of Racks in { Unlined Linen Hose, { in feet {	50	100	100	150	150	150	
Capacity of Racks in { Rubber Lined Linen { or Mill Hose, in feet {	50	100	100	50	50	100	100

WRITE FOR DISCOUNTS

FLEXIBLE METALLIC HOSE

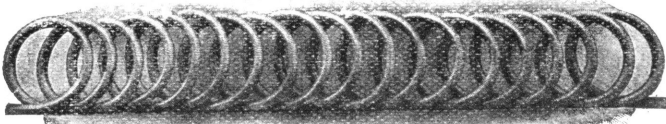


Fig. 404

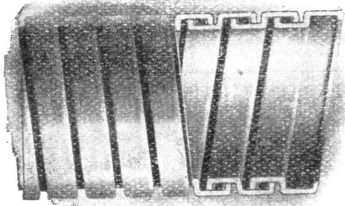


Fig. 405

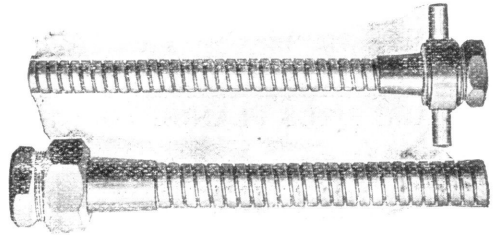


Fig. 406

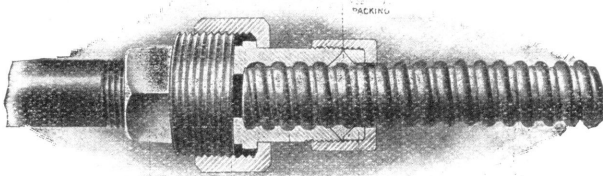


Fig. 407

This excellent Hose is now being used extensively all over the world. It is adapted for handling Water, Oil, Gasoline, Steam or Gas, and can be supplied with connections for Iron Pipe thread, can be had in 100 ft. lengths or will be cut and fitted with couplings any length desired. It is absolutely guaranteed. Made of either Copper or Galvanized Iron.

GALVANIZED IRON

Internal Diam. Inches	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Price per foot	\$0.30	$0.37\frac{1}{2}$	0.45	0.60	0.70	0.75	1.05	1.35
Internal Diam. Inches	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8
Price per foot	\$1.80	2.50	3.00	3.30	3.60	4.50	5.40	7.20

Connections

Internal Diam. In.	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Price per Conn.	\$0.60	0.75	0.90	1.15	1.45	1.80	2.85	3.75	4.40	5.50	7.60	8.75	9.75

Flexible Metallic Hose - cont.
COPPER

Internal Diam. Inches	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	Working Pres. per sq. in.		
Price per ft.	\$0.60	1.00	1.25	1.45	1.70	2.10	2.55	200 lbs. Steam		
Internal Diam. Inches	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5	6	8	Working Pres. per sq. in.
Price per ft.	\$3.35	4.50								150 lbs. Steam
" "			\$5.40	6.30						120 " "
" "					\$7.20	8.10				100 " "
" "							\$10.50	12.60	17.00	Suction Hoses

Connections for above in Gun Metal

Internal D'am. In.	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Pr ce per Conn.	0.85	1.05	1.30	1.80	2.55	3.10	3.50	3.75	4.40	5.50	7.60	8.75	9.75

ALL SIZES FLANGE CONNECTIONS SPECIAL QUOTATIONS

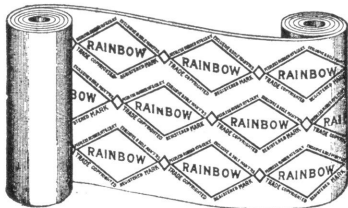


Fig. 408

**RAINBOW SHEET
PACKING**

Best for all Purposes.

Sizes and approximate weight per yard,
as follows:

Inch	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{3}{32}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$
Lbs.	$3\frac{1}{4}$	$6\frac{1}{2}$	9	12	17	22

Other sizes to order.

Price per pound, \$1.00

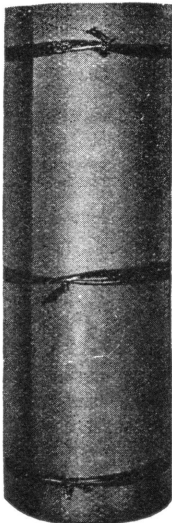


Fig. 409.

Cloth Inserted Sheet Packing

Made in four Grades:—

Premier.	Western.
Commercial.	Trade

Sizes under $\frac{1}{16}$ in. sold in only PREMIER & WESTERN Grades.

CLOTH INSERTION.

Cloth on One or Both Sides.

Thickness	1-Ply	2-Ply	3-Ply	4-Ply
$\frac{1}{64}$ inch.	\$0.70			
$\frac{1}{32}$ "	.65			
$\frac{1}{16}$ "	.60	\$0.63	\$0.66	
$\frac{3}{32}$ "	.55	.58	.61	
$\frac{1}{8}$ "		.55	.58	\$0.61
$\frac{3}{16}$ "			.55	.58
$\frac{1}{4}$ "				.55

One ply of cloth to every $\frac{1}{16}$ inch thickness.

Each cloth, whether insertion or on outside, to count as one ply. Three cents per pound additional will be charged for each extra ply of cloth.

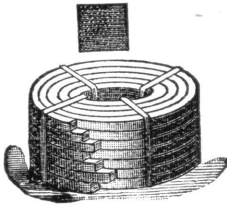


Fig. 410

Square and Round

Duck Packing .

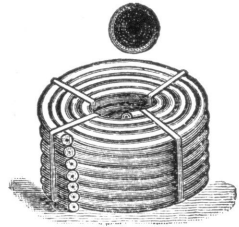


Fig 411

Genuine Tucks, 75c. per lb.

Hydraulic.—Made from very fine, closely plied duck for use under heavy hydraulic pressure. In three grades:—Soft, Medium and Rock Hard.

Price.....\$1.20 per lb.

Square Duck Plain.—Tightly woven duck compressed with strong waterproof friction. For ordinary pump work.

Price.....\$0.50 per lb.

Square Duck Elastic Back.—Same as square duck plain, having an elastic rubber back set to the edge of the duck.

Price.....\$0.50 per lb.

Tucks Round Core.—Tightly wrapped with strong friction between the plies, and a rubber core in the centre.

Price.....\$0.75 per lb.

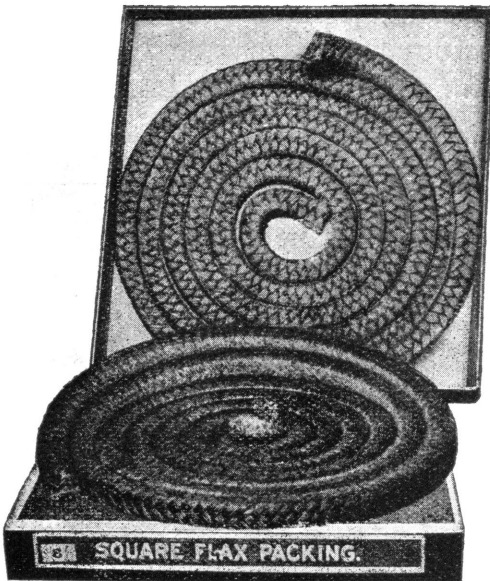


Fig. 412

Square Flax

Packing

PRICE..... \$0.50 PER LB.

WRITE FOR DISCOUNTS

“Canadian” Spiral Packing

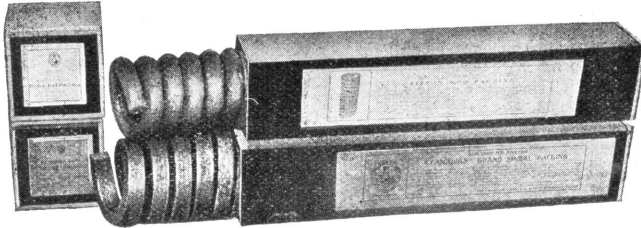


Fig. 413

Price..... \$1.00 per lb.

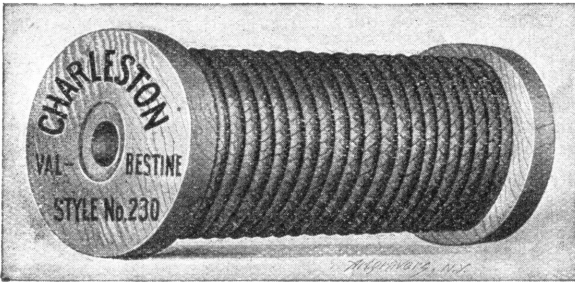


Fig. 414

Will Stand All Pressures

ALSO MADE WITHOUT WIRE INSERTION

Put up on spools in the following sizes: 1-16 in., 1-8 in., 3-16 in., 1-4 in., 5-16 in., 3-8, 7-16 in. and 1-2 in.

PRICE \$1.50 PER POUND

“Valbestine” Packing

This is our Special Valve Stem Packing. For small stop valves, globe, angle and radiator valves. Made in the round form and of the finest quality long fibre asbestos, braided with a metallic wire and lubricated by our special process.

Asbestos Wick Packing.

This Packing is made of the purest Asbestos Fibre, absolutely acid and fire proof, is soft and pliable, and can be formed and packed in desired shapes. Is used for packing small steam pumps, tubes, valve stems, and similar puposes. Is put up in $\frac{1}{4}$, $\frac{1}{2}$, and 1 lb. balls. Unless otherwise instructed 1 lb. balls are furnished on orders.

PRICE.....\$0.50 per lb.

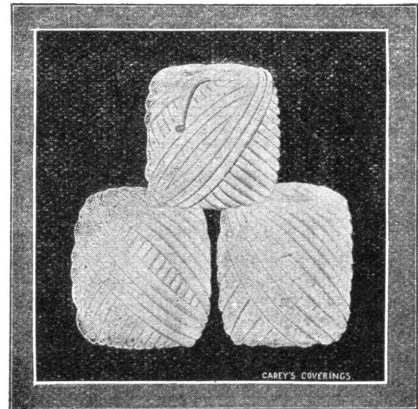


Fig. 415

WRITE FOR DISCOUNTS

Asbestos Rope Packing.

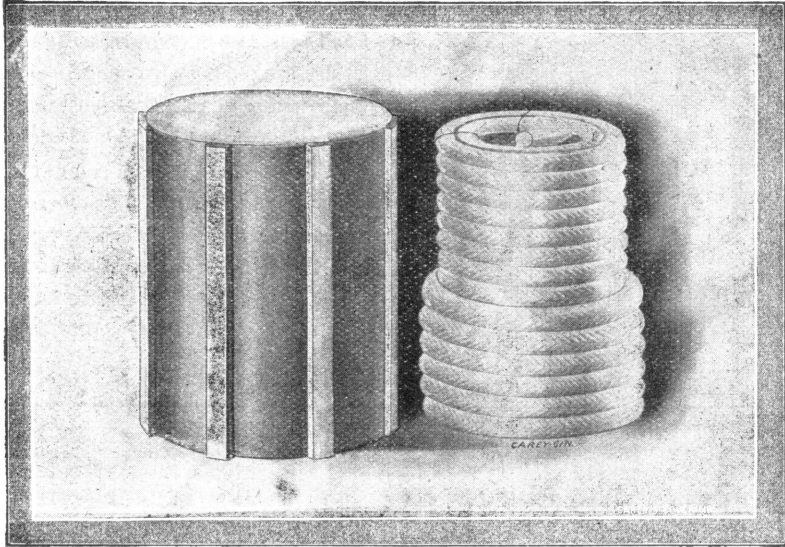


Fig. 416

Is made of long select Asbestos Fibre. Is absolutely fire-proof and not affected by oil. Is extensively used for packing engines, joints and similar purposes. Is furnished in reels of 10, 15, 25 and 50 lbs. each, and in thickness from $\frac{1}{4}$ inch to $2\frac{1}{2}$ inches in diameter.

PRICE.....\$0.50 per lb.

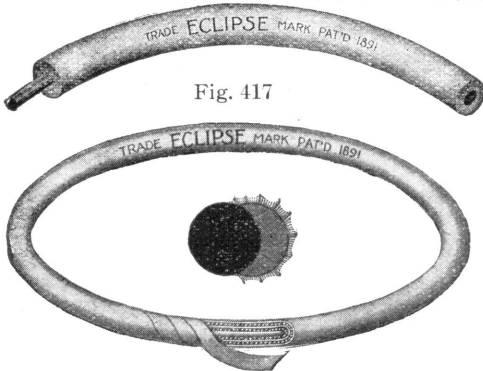


Fig. 417

The Eclipse Sectional Rainbow Gasket

Will fit any Hand or Man Hole in the world. Made of the celebrated Rainbow Packing Compound.

Fig. 417a Length and weight per box.

$\frac{3}{8}$ inch diam.	36 feet	$2\frac{3}{4}$ lbs.
$\frac{1}{2}$ " "	36 "	5 "
$\frac{5}{8}$ " "	24 "	$5\frac{3}{4}$ "
$\frac{3}{4}$ " "	18 "	6 "
$\frac{7}{8}$ " "	12 "	$6\frac{1}{4}$ "
1 " "	12 "	7 "

$\frac{1}{4}$ and $\frac{3}{8}$ inch for Pipe Unions. $\frac{1}{2}$ inch for Hand-Hole Plates.
 $\frac{5}{8}$ and $\frac{3}{4}$ inch for Man-Hole Plates.
 $\frac{7}{8}$ and 1 inch for Extra Large Man-Hole Plates.

PRICE PER POUND, \$1.50

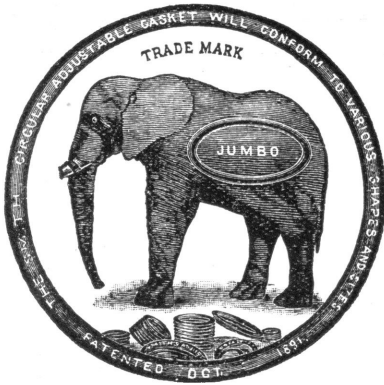


Fig. 418

Smith's Gaskets

Each Gasket will conform naturally to each size in the above list and will expand to many more sizes, and keep intact as placed, by canting the inner edge on flange. Our Gaskets, are being manufactured from the best Red Rubber stock.

Orders filled on Short Notice.
Trial Order Solicited and Guaranteed.

Price.....\$1.25 per pound

MAN-HOLE SIZES CONFORM TO THE FOLLOWING SIZES

No. of Gaskets.											Price List. Each
2	6½ x 14½ in.	7 x 14	7¾ x 13½	8¼ x 13	9 x 12½	9½ x 12					\$ 85
3	7½ x 15½ "	8¼ x 15	8¾ x 14½	9½ x 14	10 x 13½	10½ x 13					90
4	8¼ x 16½ "	9 x 16	9¾ x 15½	10¼ x 15	11 x 14½	11½ x 14					95
4¾	8½ x 17½ "	9¾ x 17	9¾ x 10¾	10½ x 16½	11¼ x 15½	11¾ x 16¼					1.00
5	8¾ x 18 "	9½ x 17½	10 x 17	10¾ x 16½	11 x 16	12 x 15½					1.00

HAND-HOLD SIZES CONFORM TO THE FOLLOWING SIZES

1	1¾ x 3¾	"	1¾ x 3½	2 x 3¼	2¼ x 3						\$0.07
2	2¼ x 4¼	"	2½ x 4	2¾ x 3¾	3 x 3¼						12
2¼	2¾ x 4¾	"	2⅝ x 4½	3 x 4¼	3¼ x 4						13½
2½	2½ x 5	"	2¾ x 4¾	3 x 4½	3¼ x 4¼						15
2¾	2⅞ x 5¼	"	3⅛ x 5	3½ x 4¾	3¾ x 4½						16½
3	3 x 5¾	"	3¼ x 5½	3½ x 5¼	3¾ x 5						18
3½	3½ x 6	"	3¾ x 5¾	4 x 5½	4¼ x 5¼						19
4	3¾ x 6¼	"	4 x 6	4¼ x 5¾	4½ x 5½						20
4½	4 x 7¼	"	4½ x 7	4½ x 6¾	4¾ x 6½						22½
5	3¾ x 7¾	"	4¼ x 7½	4½ x 7¼	4¾ x 7						24
5½	4¼ x 8¼	"	4½ x 8	4¾ x 7¾	5 x 7½						27
6	4¾ x 8¾	"	5 x 8½	5¼ x 8¼	5½ x 8						30

FRICITION BOARD FOR ALL PURPOSES

Made from specially prepared stock and under extreme pressure. It is an easy matter to get friction board but it is most difficult to obtain a board that will stand when put to the test. Our board has stood it, which fact will be readily affirmed by users from Halifax to Vancouver. Try it!

Grey Friction Board,	...	...	\$0.10 per lb.
Red Fibre,	...	...	0.35 " "

WRITE FOR DISCOUNTS

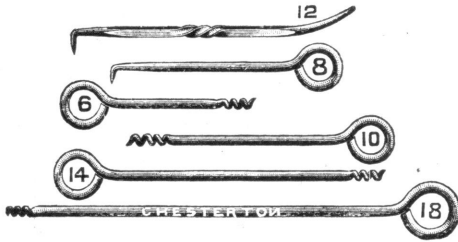


Fig. 419

All sizes to order.

PACKING TOOLS

Will go into any Valve Rod Pump or Engine Stuffing Box.

Made in $\frac{3}{16}$, $\frac{1}{4}$ and $\frac{5}{16}$ in. steel. Made 4, 8, 10, 12, 14, 16, 18, 20 and 24 in. long

Set of Packing Tools, Nickel Plated, \$2.25.

Rubber Pump Valves

Give full Particulars when ordering, diameter, size of hole, thickness, kind and grade wanted.

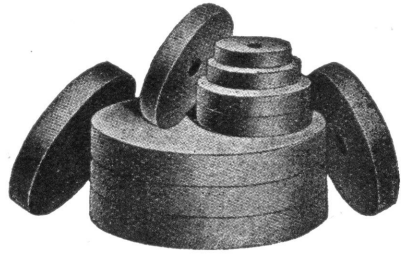


Fig. 420

Density Pressure	Soft cold water up to 50 lbs.	Medium cold water 50 to 100 lbs.	Med. Hard cold and warm water 100 to 175 lbs.	Hard hot water to 250 lbs.
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Made in Four Grades

No. 1 \$1.25 lb.	No. 2 1.15 lb.	No. 3 95c. lb.	No. 4 80c. lb
---------------------	-------------------	-------------------	------------------

Diaphragms

We can supply a full and complete line of Diaphragms, known to the trade by the following names:

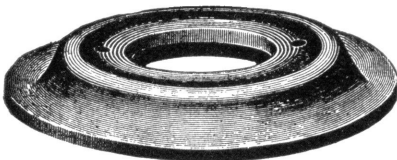


Fig. 421

EDSON PUMP DIAPHRAGM

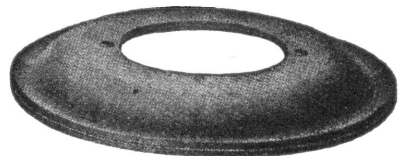


Fig. 422

LOUD PUMP DIAPHRAGM

Approximate Weights and Measurement

EDSON No. 3—	Weight 37 ozs. ea.,	Size 12-7/8" o.d.,	4-7/8" hole	3/8" thick
LOUD No. 2—	" 35 "	" 13" "	5-3/4" "	5/16" "
B. and L. No. 2—	" 26 "	" 13" "	5-13/16" hle.	1/4" "

Price.....\$3.00 each

WRITE FOR DISCOUNTS

Standard Asbestos Moulded Covering

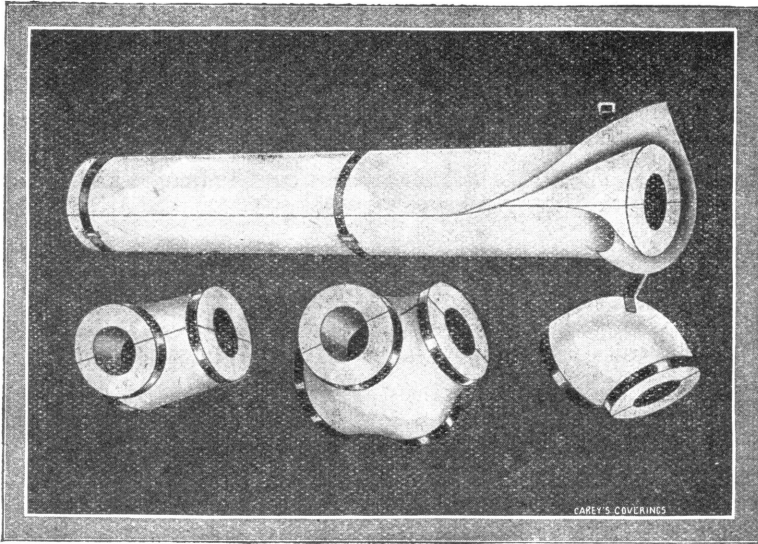


Fig. 423

For High and Low Pressure Steam Pipes

Standard Asbestos Sectional Steam Pipe Covering is composed of asbestos fibre, magnesia and other absolutely fireproof, non-conducting materials, which, combined, form a light, porous composition, containing an infinite number of minute dead air cells, which are the basis of heat insulation. It is moulded into sections three feet long, which are cut open lengthwise, so as to be readily placed on the pipe, and are furnished with canvas jackets and metal bands to hold them in place.

Moulded coverings are also made for all regular fittings, including ells, tees, globe valves and crosses.

See Price List next page.

Air Cell Pipe Covering

Sectional Air Cell Pipe Covering is constructed of alternate layers of plain and corrugated asbestos paper, forming, when placed upon the pipe, successive layers of continuous dead air cells, making a light, durable and efficient insulation for both high and low pressure work. As in the Moulded Covering, the sections are cut into halves lengthwise and furnished with canvas jacket and metal bands. The Covering is made regularly in three thicknesses, namely, $\frac{1}{2}$ " , $\frac{3}{4}$ " and 1", but is also furnished in any greater thickness desired.

One notable advantage of the Asbestos Air Cell Pipe Covering is its resistance to usage and safety in transit, as there is no liability whatever of breakage, regardless of the distance traversed, or handling to which it is subjected.

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